HP 13255

KEYBOARD MODULE

Manual Part No. 13255-91018

PRINTED

AUG-01-76

# DATA TERMINAL TECHNICAL INFORMATION





#### 1.0 INTRODUCTION.

The Keyboard Module provides direct data entry into the terminal by the terminal operator.

#### 2.0 OPERATING PARAMETERS.

A summary of operating parameters for the Keyboard Module is contained in tables 1.0 through 6.4.

Table 1.0 Physical Parameters

=======================================			
l Part	1	Size (L x W x D)	Weight
Number	Nomenclature	+/-0.100 Inches	(Pounds)
=========			=======
1 02640-60018	Kevboard PCA	16.8 x 7.1 x 2.1	2.75
1 02640-60019	Kevboard Interface PCA	12.9 x 4.0 x 0.5	0.38
1 02640-60030	GP Keyboard Assembly	N/A	N/A
02640-60041	Speaker Cable Assembly	N/A	N/A
02640-60081	Kevboard Cable Assembly	N/A	N/A
02640-60091	Cyrillic Keyboard Assembly	N/A	N/A
02640-60105	Swedish Keyboard Assembly	N/A	N/A
02640-60113	Norwegian Keyboard Assembly	N/A	N/A I
02640-60114	Cyrillic Keycap Assembly	N/A	N/A
02640-60145	2640B Keyboard Assembly	N/A	N/A
02644-60002	2644A Keyboard Assembly	N/A	N/A
02645-60001	2645A Keyboard Assembly	N/A	N/A
	Number of Backplane Slots A	Required: 1	

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NOTE: This document is part of the 264XX DATA TERMINAL product series Technical Information Package (HP 13255).

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02640-60091	Cyrillic Keyboard Assembly	I I N/A	!   N/A
02640-60105	Swedish Keyboard Assembly	   N/A	I N/A
02640-60113	Norwegian Keyboard Assembly	   N/A	I N/A
02640-60114	Cyrillic Keycap Assembly	I I N/A	I N/A
1 02640-60145	2640B Keyboard Assembly	N/A	I N/A
1   02644 <b>-</b> 50002	2644A Keyboard Assembly	   N/A	I N/A
02645 <b>-</b> 60001	2645A Keyboard Assembly	I N/A	N/A

Table 2.0 Reliability and Environmental Information

==		=======					
† †	Environmental:	( X ) HP	Class B	( ) 0	ther:		i !
	Restrictions: Type	e tested a	t product	level			
  =		=======================================		=========		======	   ==================================
  -	Failur	e Rate:	2.108	(percent p	er 1000	hours)	i

Table 3.0 Power Supply and Clock Requirements - Measured (At +/-5% Unless Otherwise Specified)

(Combined for Keypoard and Keyboard Interface PCA's)

1	50 तो तो क्षेत्र पहिल्ला प्राप्त प्राप्त प्राप्त प्राप्त का व्याप्त प्राप्त का व्याप्त प्राप्त प्राप्त का व्या ते द्वार नेता नग विद्या तथा व्याप्त का किंदि व्याप्त प्राप्त प्रमुक्त प्राप्त व्याप्त व्याप्त व्याप्त व्याप्त	:=====================================	
+5 Volt Supply	+12 Volt Supply	-12 Volt Supply	-42 Volt Supply
6 000 mA	A 100 mA	@ 80 mA	Am A
1		! !	NOT APPLICABLE
		=====================================	
115 vo	lts ac	220 vo	olts ac
i a	A	, ,	Α Ι
NOT APPI	TCABLE	I TON TON	PLICABLE
i	Clock Frequency:	MHZ	i
1	NOT API	PLICABLE	1

Table 4.0 Jumper Definitions

PCA	Function	===
Designation	In   Out	
   A through H 	Jumpers A through H are located on the Keyboard Interface PCA and are applicable for software. (See table 6.2 for their interpretation.)	

Table 5.0 Connector Information - Keyboard PCA

Connector   Signal   Signal   Signal   Description   Description   Signal   Description   Description   Signal   Description   Description	=====
	=====
J3, Pin 1   GND  }	======
·	1
1 - 2 1 GND 1)	
- 3   BADDR3   Positive True, Column Address Bit 3	į
- 4   BBUS4   Negative True, Buffered Data Bus Bit	4
- 5 BBUS5 Negative True, Buffered Data Bus Bit	5
- 6   BBUS7   Negative True, Buffered Data Bus Bit	7
- 7 BBUS6   Negative True, Buffered Data Bus Bit	6
Negative True, Enables Reading the Co - 8   READ . COLIS   0-13. Not asserted for Columns 14	
- 9   Not Used	į
-10   LED EN   Strobes Data into LED Latches	i
-11   REEP   Triggers Beeper Circuit	i
-12 +12V   +12 Volt Power Supply	i
-13 +5V +5 Volt Power Supply	į
-14 -12V -12 Volt Power Supply	1
-15   CHASSIS GND   Grounds the Switchplate	======

Table 5.1 Connector Information - Keyboard PCA

Connector 1		Signal
and Pin No. I	Name	Description
† 	!	
J4, Pin 1 i	PON	Resets the Terminal
- 2	+5 V	+5 Volt Power Supply
- 3	COL OUT EN	Strobes Data into Column's Previous State in Input Register
- 4	BBUS3	Negative True, Buffered Data Bus Bit 3
- 5 I	BRUSO	Negative True, Buffered Data Bus Bit 0
- 6 H	BRUS2	Negative True, Buffered Data Bus Bit 2
- 7	BBUS1	Negative True, Buffered Data Bus Bit 1
- 8	BADDR2	Positive True, Column Address Bit 2
- 9	BADDR1	Positive True, Column Address Bit 1
-10	BADDRO I	Positive True, Column Address Bit 0
i	i	

Table 5.2 Connector Information - Keyboard Interface PCA

Connector	Signal	Signal
I and Pin No.	Name	Description
P1, Pin 1	+5V	=====================================
	- 	
- 2	GND	Ground Common Return (Power and Signal)
- 3		Not Used
- 4	-12V	-12 Volt Power Supply
- 5	ADDRO	Negative True, Address Bit 0
- 6	ADDR1	Negative True, Address Bit 1
- 7	ADDR2	Negative True, Address Bit 2
- 8	ADDR3	Negative True, Address Bit 3
- 9	ADDR4	Negative True, Address Bit 4
-10	ADDR5	Negative True, Address Bit 5
-11		
-12		} Not
-13		
-14	ADDR9	Negative True, Address Bit 9
-15	ADDR10	Negative True, Address Bit 10
-16	ADDR11	Negative True, Address Bit 11
-17	1   	'  }  }
-18	 	
-19		
-20	   	
-21	1/0	Negative True, Input Output/Memory
-22	I GND	Ground Common Return (Power and Signal)

Table 5.2 Connector Information (Cont'd.) - Keyboard Interface PCA

	====		===	
1 Connector			ı	1
Pin Numbe	er	Name	! !	Signal
1 P1, Pin	Δ	GND	==   	Ground Common Return (Power and Signal)
1	., ,			The state of the s
!	-B (		!	Not Used
	-c	+12V	; !	+12 Volt Power Supply
	-D	PWR ON	1   	System Power On
•	-E	BUS0	! ! !	Negative True, Data Bus Bit 0
,   	-F	BUS1	, , ,	Negative True, Data Bus Bit 1
	-뭐	BUS2	,   	Negative True, Data Bus Bit 2
· •	-J	BUS3	 	Negative True, Data Bus Bit 3
•	-K	BUS4	 	Negative True, Data Bus Bit 4
	-1,	BUS5	1	Negative True, Data Bus Bit 5
•	- M	BUS6	 	Negative True, Data Rus Bit 6
•	- N	BUS7	† †	Negative True, Data Bus Bit 7
1	•P (	WRITE	! !	Negative True, Write/Read Type Cycle
•	<b>-</b> R	 	}   }	Not Used
•	-S		1)	!
	- T (	PRTOR IN	! !	Bus Controller Priority In
· ·	-IJ	PRTOR OUT	,   	Bus Controller Priority Out
•	- v	 	}   }	į
•	<b> ₩</b>	 	}   }	Not Used
•	<b>-</b> X	l	l } 	
!	- Y	PEO	† 	Negative True, Request (Bus Data Currently Valid)
	-Z (	 	! ! 	Not Used

Table 5.3 Connector Information - Keyboard Interface PCA

Connector	Signal	Signal
and Pin No.	Name	Description
1 DO 04 4		
P2, Pin 1 (	+5V	+5 Volt Power Supply
- 2	BBUSO	Negative True, Buffered Data Bus Bit 0
<b>-</b> 3	BBUS1	Negative True, Buffered Data Bus Bit 1
<b>-</b> , ,	10000	Nedacive file, Buffered Data has hit i
- 4	BBUS2	Negative True, Buffered Data Bus Bit 2
<b>-</b> 5	BBUS3	Negative True, Buffered Data Bus Bit 3
		ļ
<b>-</b> 6 (	BBUS4	Negative True, Buffered Data Bus Bit 4
- 7	BBUS5	Negative True, Buffered Data Bus Bit 5
<b>-</b> 8	Dolle?	Nogative True Outtoned Data Dug Dit (
~ n	BBUS6	Negative True, Buffered Data Bus Bit 6
- 9	BBUS7	Negative True, Buffered Data Bus Bit 7
<b>-1</b> 0	BADDRO I	Positive True, Column Address Bit 0
-11	BADDR1 I	Positive True, Column Address Bit 1
-12	BADDR2	Positive True, Column Address Bit 2
4.2	7.7.7.7	Produktur Warre Column N. N. and P. A. 3
<b>-13</b>	BADDR3	Positive True, Column Address Bit 3
i		
-14 i	READ . COL15	Negative True. Fnables Reading the Column 0-13. Not Asserted for Column 14 & 15
- 1 <del>-</del> 1	COUIS	0 15. NOE ASSELTED COLUMN 17 & 15
-15	COM	Common Return
•	! 	
	::::::::::::::::::::::::::::::::::::	' :====================================

Table 5.3 Connector Information (Cont'd.) - Keyboard Interface PCA

I Connector		Signal
1 and Pin No.		Description
	====================================	====================================
P2, Pin A	СОМ	Common Return
-R	PEEP	Triggers Reeper Circuit
-c	-12V	-12 Volt Power Supply
-D	CHASSIS GND	Grounds the Switchplate
-E		  }
-F	1	)) Not Used
-н		
-J	I COL OUT EN	Strobes Column's Previous States   into Input Register
-к	LED EN	Strobes Data Into LED Latches
-t	! !	Not Used
-м	PON	Resets the Terminal
- N	+5 V	+5 Volt Power Supply
•P	1	,  } Not
-R	İ	1) Used
-s	1 +12V	   +12 Volt Power Supply
1	<b>†</b>	<b>1</b>
1	1	, I

Table 6.0 Module Bus Pin Assignments

Function	1	Bus I
Performed: Output a column's previous state into	i I Value	•
the Keyboard PCA's input register	Value	Signal   
the Reyboard FCA's Input register	X	• • • • • • • • • • • • • • • • • • • •
Poll Bit: Not Applicable	•	ADDR 15
Poli Bit: Not Abbildable	I X	ADDR 14
Well 12 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	I X	I ADDR 13 I
Module Address: $(ADDR 11, 10, 9, 4) = (0011)$	1 X	ADDR 12
!	! 0	ADDR 11
!	1 0	ADDR 10
	1 1	ADDR 9 I
Function Specifier: ADDR 5 = 1	i x	I ADDR 8 I
I and the second	1 0	I ADDR 7 I
t e	i X	I ADDR 6 I
1	1 1	I ADDR 5 I
The state of the s	1 1	ADDR 4
1	1 X	I ADDR 3 I
1	1 X	ADDR 2
Pata Bus Bit Interpretation: Each data bit is	I X	ADDR 1
l associated with a switch in a column. If	I X	ADDR 0 I
the bit is set to 1, it indicates that the	1======	======================================
switch was previously depressed. The column	1 B7	BUS 7
to which the value is applied is specified	1 B6	BUS 6
by a subsequent switch read as indicated	B5	BUS 5
in table 6.1.	1 B4	
In capie 6.1.	**	BUS 4
!		BUS 3
!	1 B2	BUS 2
!	B1	BUS 1
!	1 BO 1	BUS 0
1	======	
T		al 1=Bus Low
T .		al 0=Bus High!
1	IX=Don't	Care I
₹	=======	
1		1
f .		1
1		1
1		1
1		i i
i		ì
1		i
		i
1		i
1		ì
7 4		!
1		1
1		
		1
I		
	=======	

Table 6.1 Module Bus Pin Assignments

Function			=======	=======================================	:=======			
L GINC CTOH	Read swi	tches in co	lumn		1	Bus		
Performed:	"n" as d	! Value	l Signal					
		A1, and A0	•		======	=========		
	- • •				i x	ADDR 15		
Poll Bit:	Not Appl	icable			i X	ADDR 14		
	- , ,				i x	ADDR 13		
Module Addr	ess: (AD	DR 11,10,9,	4) = (001)	1)	i X	ADDR 12		
0.0010	0.00	,.,,,	.,	• •	i ô	ADDR 11		
					iŏ	ADDR 10		
					i ĭ	ADDR 9		
Function Sp	ecifier:	ADDR 0.1.2	.3 are us	ed to specif		ADDR 8		
				mn is to be	i ô	ADDR 7		
		read. The			i x	ADDR 6		
		· · · · · · · · · · · · · · · · · · ·		bits must be		ADDR 5		
		less than	· ·		1 1	ADDR 4		
		ress chan	11 (000111		i A3	ADDR 3		
					I A2	ADDR 2		
Data Bus Bi	t Internr	etation. F	ach data	hit ic	i A1	ADDR 1		
		a switch in			I AO	ADDR ADDR O		
		pressed, th			1	======================================		
		1 for a cr			1 67	BUS 7		
		he physical			1 B6	BUS 6		
kevboar		ne physical	SALCCHES	on the	I B5	BUS 5		
KEADOGI	u • )				I B4	BUS 4		
						BUS 3		
					1 B2	BUS 2		
					I B1	BUS 1		
					I BO	BUS 0		
					=======			
					• = = = = = = =	el 1=Bus Low		
					-	al O=Bus High		
					IX=Don't			
Column Address   DATA BUS BIT								
מתנו 1 כי	Address							
Column	Address	========	========		: :==========			
========	========	1 B7 1 B6	1 B5 1	=======================================	=========	   BO		
========   A3   A2	A1   A0			B4   B3	B2   B1	======================================		
====================================	A1   A0	= ==== ===	== ====	B4   R3	B2   B1	= ====		
1 A3 1 A2 1 ====1==== 1 U 1 O	A1   A0  ====!===   0   0	1 007   00	== ====  6   005	B4   R3   ===== ==============================	B2   B1 ===== ===== 002   001	=====		
=======   A3   A2   ==== ====   U   O   O   O	A1   A0   A1   A0   A1   A1   A1   A1	= = = =   = = =   007	== ====  6	B4   R3   ===== =====  004   003   014   013	B2   B1 ==== ==== 002   001 012   011	= = = =     000     010		
=======   A3   A2   ==== ====   U   O   O   O   O   O	A1   A0   A0   ====   ==   O   O   O   1   I   O	-   -     -   -     -   -   -   -   -   -   -   -   -   -   -	== ====  6	B4   R3   ===== =====  004   003   014   013   024   023	B2   B1 ==== ==== 002   001 012   011 022   021	= = = =     000     010     020		
=======   A3   A2   ==== ====   U   O   O   O   O   O   O   O	A1   A0   A0	007   00   017   01   027   02   037   03	== ====  6	B4   B3   ===== =====  004   003   014   013   024   023   034   033	B2   B1 ==== ================================	= = = =     000     010     020     030		
=======   A3   A2   ==== ====   U   O   O   O   O   O   O   O   U   1	A1   A0   A0   A1   A1   A1   A1   A1	=   = = =   = = =   007   00   017   01   027   02   037   03   047   04	== ====  6	B4   B3   ===== ====  004   003   014   013   024   023   034   033   044   043	B2   B1 ==== ================================	= = = =     000     010     020     030     040		
=======   A3   A2   ==== ====   U   O   O   O   O   O   O   O   U   1   O   1	A1   A0   A0	=   = = =   = = =   007   00   017   01   027   02   037   03   047   04   057   057   05	== ====  6	B4   B3   ==== =====  004   003   014   013   024   023   034   033   044   043   054   053	B2   B1 ==== ================================	= = = =     000     010     020     030		
====================================	A1   A0   A0   A1   A1   A1   A1   A1	=   = = =   = = =   007   00   017   01   027   02   037   03   047   04   057   05   067	== ====  6	B4   B3   ====================================	B2   B1 ==== ================================	= = = =     000     010     020     030     040     050		
====================================	A1   A0   O   O   O   O   O   O   O   O   O	=   = = =   = = =   007   00   017   01   01   027   02   037   03   047   04   057   05   067   06   077   07	== ====  6	B4   R3   ==== ====  004   003   014   013   024   023   034   033   044   043   054   053   064   063   074   073	B2   B1 ==== ================================	= = = =     000     010     020     030     040     050     070		
========   A3   A2   ====  ====   U   O   O   O	A1   A0   O   O   O   O   O   O   O   O   O	=   = = =   = = =   007   00   017   01   027   02   037   03   047   04   057   05   067   06   077   07   107	== ====  6	B4   R3   ================================	B2   B1 ==== ================================	= = = =     000     010     020     030     040     050     -     070		
====================================	A1	=   = = =   = = =   007   00   017   01   027   02   037   03   047   04   057   05   067   06   077   07   107   117   11	== ====  6	B4   R3   ================================	B2   B1 ==== ================================	= = = =     000     010     020     030     040     050     -     070     100		
====================================	A1	=   = = =   = = =   007   00   017   01   027   02   037   03   047   04   057   05   067   06   077   07   107   107   117   11   127   1	== ====  6	B4   R3   ================================	B2   B1 ==== ================================	= = = =     000     010     020     030     040     050     -     070     100     110		
====================================	A1   A0   A0   A1   A1   A1   A1   A1	=   = = =   = = =   007   00   017   01   017   01   027   027   028   037   038   047   048   057   058   067   068   077   078   1078   1078   1178   1188   1187   1188   1187   1188   1187   1188	== ====  6	B4   R3   ================================	B2   B1 ==== ================================	= = = =     000     010     020     030     040     050     -     070     100     110     120     130		
====================================	A1	=   = =   = =	== ====  6	B4   R3   ================================	B2   B1 ==== ================================	= = = =     000     010     020     030     040     050     -     070     100     110     120     130		

Table 6.2 Module Bus Pin Assignments

Performed: Read Jumpers A through H on Keyboard	   Value	_
Interface PCA	======	=======
	· · · · ·	ADDR 1
Poll Bit: Not Applicable	-	ADDR 1
	1 X	ADDR 1
Module Address: $(ADDR 11,10,9,4) = (0011)$	1 X	ADDR 1
	1 0	ADDR 1
	1 0	ADDR 1
	1 1	ADDR
Function Specifier: ADDR $0,1,2,3 = (0111)$	I X	ADDR
	1 0	ADDR
	1 X	ADDR
	l X	ADDR
	1 1	ADDR
	1 1	ADDR
	1 1	ADDR
Pata Bus Bit Interpretation:		I ADDR I ADDR
raca has bit intelblacations	1 0	ADDR
R1	======	
When set to 1, Jumper H is out	,	BUS 7
when set to 1, dumper H is out		200
		PUS 6
		BUS 5
Bó	1 84	BUS 4
When set to 1, Jumper G is out		BUS 3
		BUS 2
	1 B1	PUS 1
B5	1 BO	BUS 0
When set to 1, Jumper F is out	· .	
		1 1=Bus L
	10=Logica	al O=Bus H
R4	IX=Don't	Care
when set to 1, Jumper E is out	========	=======
<b>B3</b>		
When set to 1, Jumper D is out		
·		
B2		
When set to 1, Jumper C is out		
B1		
When set to 1, Jumper B is out		
and be at beinger ben end		
RC .		
When set to 1, Jumper A is out		

Table 6.3 Module Bus Pin Assignments

Idote 0.5 Modute bus kin Assignment	~	
Function Read data comm switches on Keyboard PCA	1	l Bus I
Performed: (Refer to figure 1 for physical location	Value	
of data comm switches and their	======	=======
positions.)	i x	ADDR 15
	i x	ADDR 14
Poli Bit: Not Applicable	i x	ADDR 13
1	i x	ADDR 12
Module Address: (ADDR 11,10,9,4) = (0011)	1 0	ADDR 11
	1 0	ADDR 10
· ·	1 1	I ADDR 9 I
Function Specifier: ADDR 0,1,2,3 = (1111)	l X	ADDR 8
Į.	1 0	ADDR 7
1	1 X	ADDR 6 I
	i x	I ADDR 5 I
1 Data Bus Bit Interpretation:	1 1	I ADDR 4 I
	1	I ADDR 3 I
Switch 1	1 1	I ADDR 2 I
	1 1	I ADDR 1 I
Position   0   1	1 1	I ADDR 0 I
	======	
1 в7 11 10 1	•	I BUS 7 I
	1 B6	BUS 6
1	I B5	BUS 5
B6 Not assigned, always 0	1 B4	BUS 4
		BUS 3
full to the control of the control o		PUS 2
Switch 2		BUS 1
•	B0	BUS 0
Position   0   1   2	•	al 1=Bus Low
1 B5 10 10 1 1		al 0=Bus High!
1 84 10 1 1 1 0 1	IX=Don't	
1 =====================================	TX-DOM C	
1		1
Switch 3		,
Position   0   1   2   3   4   5   6   7		i
		1
I вз   0   0   0   0   1   1   1   1   1		ı
1 82 10101111101011111		i
1 0 1 1 1 0 1 1 1 0 1 1 1		1
		I
1		
		I
i во Not assigned, always 0		ļ.
		!
		1

Table 6.4 module Bus Pin Assignments

Function	White IPD later and tuiseen aloum		Bus (dans)
berrolmed:	Write LED latch and trigger alarm	Value	
	generator (Beep)	======	========
<b>5</b> 1 ( ) 2 ( )	to the character of the character of the	•	ADDR 1
borr Bif:	Not Applicable	1 X	ADDR 1
	(2000 44 40 6 48 40 40 48	l X	ADDR 1
Module Addr	ess: $(ADDR 11,10,9,4) = (0011)$	I X	ADDR 1
		1 0	ADDR 1
		1 0	ADDR 1
		1	I ADDR
Function Sp	ecifier: ADDR 5 = 0	i X	ADDR
		1 0	ADDR
		i X	ADDR
		1 0	ADDR
		1 1	ADDR
		1 X	I ADDR
		l X	ADDR
Nata Bus Bi	t Interpretation:	l X	ADDR
		I X	I ADDR
B/		!======	•
when Set	, Beeber is triggered	I ь7	BUS 7
		, , ,	PUS 6
		l 85	BUS 5
B6		1 B4	BUS 4
when Set	, LED #7 is turned on	1 B3	Bus 3
		1 в2	BUS 2
		I B1	BUS 1
B5		I BO	I BUS 0
when Set	, LED #6 is turned on	======	=======
		l1=Logic	al 1=Bus L
		10=Logic	al O=Bus H
84		X=Don't	Care
when Set	, GFD #5 is turned on		
RJ			
when Set	, LED #4 is turned on		
	•		
P2			
when Set	, LED #3 is turned on		
B1			
when Set	, LED #2 is turned on		
BO			
when Set	, BED #1 is turned on		

3.0 FUNCTIONAL DESCRIPTION. Pefer to the switch location diagram (figure 1), block diagram (figure 2), schematic diagrams (figures 3 and 4), timing diagram (figure 5), component location diagrams (figures 6 and 7), and parts lists (02640-60018, 02640-60019, 02640-60030, 02640-60041, 02640-60081, 02640-60091, 02640-60105, 02640-60113, 02640-60114, 02640-60145, 02644-60002, and 02645-60001) located in the appendix.

The keyboard Module provides the communication link between the terminal operator and the terminal. All of the keyboard keys are arranged in a key matrix of 14 columns of eight key switches each. Two more columns are provided for reading the data comm switches and keyboard jumpers A through H.

The key matrix is constantly monitored by the processor, one column at a time. As each column is scanned, it appears to the processor as an 8-bit value where each bit represents one key switch in the column. Depressed keys are represented by a logic 1 and released keys by a logic 0. Key columns are monitored in discrete intervals. Therefore, the present state of each key must be compared to its previous state when last scanned in order for the processor to recognize when a key has just been depressed, is being held depressed, or has just been released. The previous state of each key is saved by the processor.

The keyboard logic is physically located on the keyboard Interface and keyboard PCA's. Connection between the two PCA's is accomplished by the 5-foot Keyboard Cable Assembly. As shown in the block diagram, the Keyboard Interface PCA consists of bus decoder logic circuits, option jumper network circuits, and an alarm generator. The keyboard PCA consists of a column decoder, an 8 by 14 key matrix, ramp generator, differential comparator circuits, an output register (data taken by processor), an input register (receives previous state of the key switches from processor), data comm logic, and a LED register.

- 3.1 BUS DECODER LOGIC Keyboard Interface PCA.
- 3.1.1 The bus decoder logic interprets signals from the terminal bus that are sent by the processor. The processor accesses the keyboard by applying

I/U, REQ, ADDR4, ADDR9, ADDR10 and ADDR11. ADDR0 to ADDR3 determine which column in the key matrix will be read by the processor. The

logic level of WRITE determines if data is to be received or transmit-

ted by the keypoard. When WRITE is low, the bus decoder logic applies a Data Input Enable signal (DATA IN EN) to the input buffers and previous state column data or LED data can be applied to the keyboard.

when WRITE is high, the bus decoder logic applies Data Output Enable signal (DATA OUT EN) to the output buffers and data from the keyboard

can be read into the processor. In addition, if the address of ADDR0  $\,$ 

through ADDR3 is between 0 and 13 then READ. COL 15 is generated. When column 14 is addressed, a RD JUMPERS signal is generated. If WRITE is low and ADDR5 is low, then COL OUT EN is asserted. WRITE low and ADDR5 high generate a LED EN signal. When WRITE is low, ADDR5 is nigh, and BUS7 is low, then an Alarm Enable (ALARM EN) signal is asserted.

3.1.2 When the module is decoded, RFQ and I/O are low and WRITE is high, then DATA OUT EN (U47, Pin 6) is asserted. If WRITE is low and the module is decoded, the DATA IN EN (U48, Pin 6) signal is true. When ADDRO through ADDR3 address columns 0 to 13 and DATA OUT EN is asserted, then

negative true READ . COL15 (U49, Pin 6) is asserted. If column 14 is addressed and DATA OUT EN is true, then RD JUMPRS (U59, Pin 8) is asserted.

Assertion of DATA IN EN, REO, 1/U, and ADDR5 (low) signals results in the generation of COL UUT EN (U48, Pin 11). Finally, assertion of DATA IN EN, REO, I/O, and ADDR5 (high) signals, generates positive true LED EN (U48, Pin 3) signal. When LED EN is generated and BUS7 is asserted low, the ALARM EN (U49, Pin 11) signal goes low.

3.2 OPTION JUMPER NETWORK - Keyboard Interface PCA.

Eight pluggable Jumpers (A through H), are located on the Keyboard Interface PCA. These jumpers are interpreted by the software and have no significance to the function of the keyboard. The jumpers are read by the processor when the RD JMPRS signal is decoded. (Refer also to table 6.2.)

- 3.3 ALARM GENERATOR Keyboard Interface PCA.
- 3.3.1 when the alarm generator is triggered by the ALARM EN signal, it drives the speaker with a "Beep" signal having a frequency of 650 Hz for approximately 110 milliseconds.
- 3.3.2 The alarm generator is a dual timer 556. One-half of the 556 timer is connected as a one-shot that is triggered when the ALARM EN signal goes low at U39, Pin 6. Resistor P5 and capacitor C5 determine the length of the pulse. The other half of the timer is connected as an astable multivibrator that is enabled only when the one-shot is on. The frequency is determined by resistor P7, R8, and capacitor C7. The output signal of the astable circuit (U39, Pin 9) drives the speaker located on the keypoard. Resistor P9 determines the intensity of the tone.
- 3.4 COLUMN DECUDER Keyboard PCA. The column decoder selects one column in the key matrix when binary address ADDRO through ADDR3 is applied.
- 3.5 KEY MATRIX Keyboard PCA.
- 3.5.1 The key switches are arranged in a matrix of 8 rows and 14 columns. The matrix is scanned column by column, so that eight switches at a time are read.
- 3.5.2 The key switch used is a LICON type consisting of a ferrite core, a drive wire, a sense wire, and two magnets. When the switch is in the undepressed state, the two magnets are in close proximity to the core, thus saturating the core and inhibiting the coupling of a signal from the drive wire to the sense wire. When the switch is depressed, two magnets are moved away from the core and a signal is coupled from the drive wire to the sense wire. All switches in one column are connected serially by drive lines and switches in one row are connected serially by sense lines. One side of the drive lines is connected to the column decoder (U5 and U7), and the other side to the ramp generator (to collector of 02). Fight sense lines are connected to differential comparators on one side and are grounded on the other end. After the column decoder selects a column and the ramp generator is enabled, then drive current (80 milliamperes) flows through the selected column. Depressed keys in the selected column couple the drive signal to the sense line which is then applied to the differential comparator.

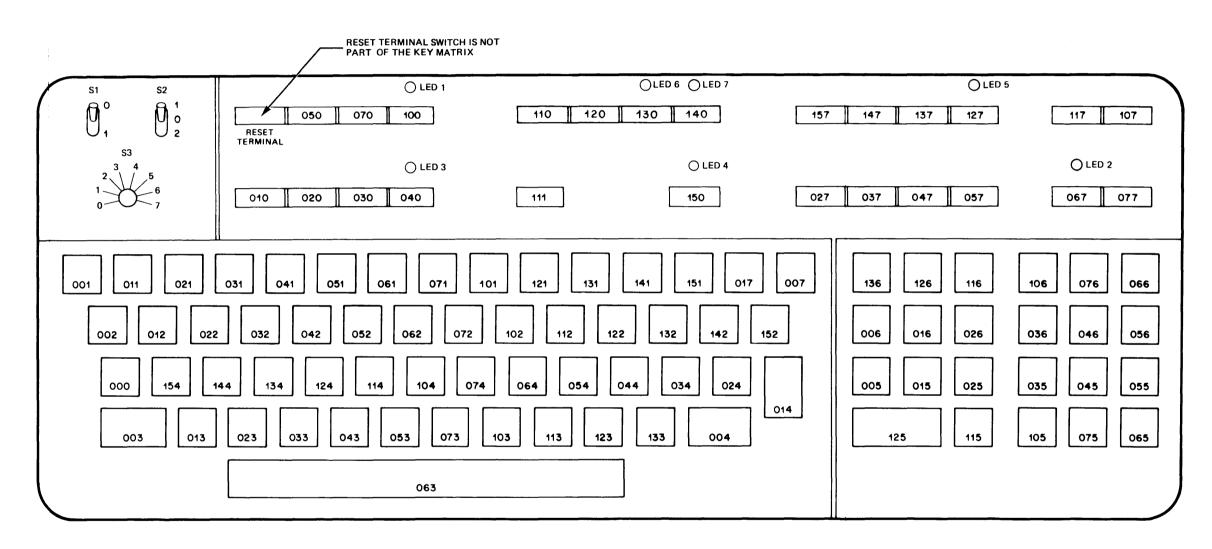
- 3.6 RAMP GENERATOR Keyboard PCA.
- 3.6.1 When a PD . COL15 signal is applied to the ramp generator, the current is enabled into the selected column. The current rises linearly from 0 to 80 milliamperes in 80 nanoseconds.
- 3.6.2 The ramp generator is a combination of a Miller integrator (transistor Q1, resistor R35, and capacitor C5) and a current mirror (transistors

Q3 and Q2). When the RD . COL15 signal is applied to the input, the collector of transistor Q1 falls to ground according to the transit time determined by R35 and C5. The collector current of Q1 rises linearly and is determined by resistors R39 and R36. Since the same base emitter voltage is applied to Q2 and Q3, the emitter current of Q2 "reflects" the current of Q3. This current flows through the selected column of the matrix. Nominally, the current rises from Q to 80 milliamperes in 80 nanoseconds. The function of R37 (10 kilohms) is to bias the drive lines to ground when Q2 is off and no column is selected.

- 3.7 DIFFERENTIAL COMPARATORS Keyboard PCA.
- 3.7.1 The eight sense lines out of the key matrix are fed into the eight differential comparators. Each depressed switch generates a pulse on the corresponding row when its column is scanned. Differential comparators translate this pulse into the required TTL level.
- 3.7.2 Differential comparators are MC1414 or equivalent. Sense lines are fed into the minus input and are terminated by a 200-ohm resistor. Threshold is determined by resistor network (47K, 47K, 1.2K) and the previous state held in the input register. When the previous state is "0", the threshold is set to 200 millivolts and when "1", it is 100 millivolts. The differential comparator timing is shown in figure 5. When the processor wants to read one column, it puts the binary address of the column on the terminal data bus and the column decoder selects the corresponding drive line for the column. Approximately 200 nanoseconds

after the column has been selected, the RD. COL15 signal comes true and turns on the ramp generator. This current is transformed into sense lines only on those switches that are depressed. The sense pulse is approximately 400 millivolts in amplitude and 80 nanoseconds wide at the base. Differential comparators set the corresponding bits in the output register.

- 3.8 OUTPUT REGISTER Keyboard PCA. Outputs of the differential comparators set the corresponding bits in an 8-bit output register. Signals
  - RD. COL15 and DATA OUT EN (on the Keyboard Interface PCA) enable the result of the selected column on the terminal data bus.
- 3.9 INPUT REGISTER Keyboard PCA. Before a column is read, the previous state of that column is sent from the processor to the input register. Outputs of this register determine the threshold or the differential comparators. If the previous state of a switch was "0", the threshold is 200 millivolts; if it was "1", the threshold is 100 millivolts. This causes hysteresis in the key travel since the sense pulse amplitude is proportional to the key depression.
- DATA CUMM LOGIC Keyboard PCA. The data communications logic contains a baud rate encoder and the keyboard data communications switches. Eight positions of the rotary BAUD RATE switch (Switch 3) are encoded into three binary bits. The 3-position PARITY switch (Switch 2), is encoded into two bits. The 2-position DUPLEX switch (Switch 1) uses one bit for detection. when column 15 is addressed, the RD. COL15 (U8, Pin 10) signal is decoded and the data comm byte is released to the terminal data bus. (Refer to table 6.3 for more details.)
- 3.11 LED REGISTER Keyboard PCA. The LED register is loaded with seven data bits when a LED EN signal is decoded. Outputs of this latch drive seven LFD indicators.



NOTE: ALL SWITCHES AND LED'S ARE SHOWN AS THEY ARE LOADED ON THE PCA.

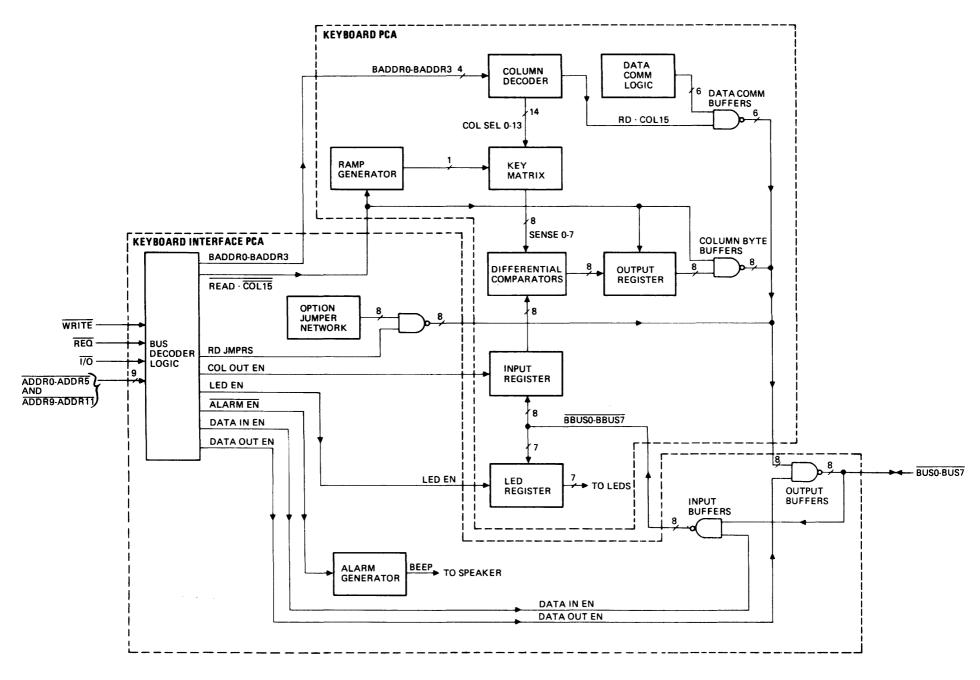
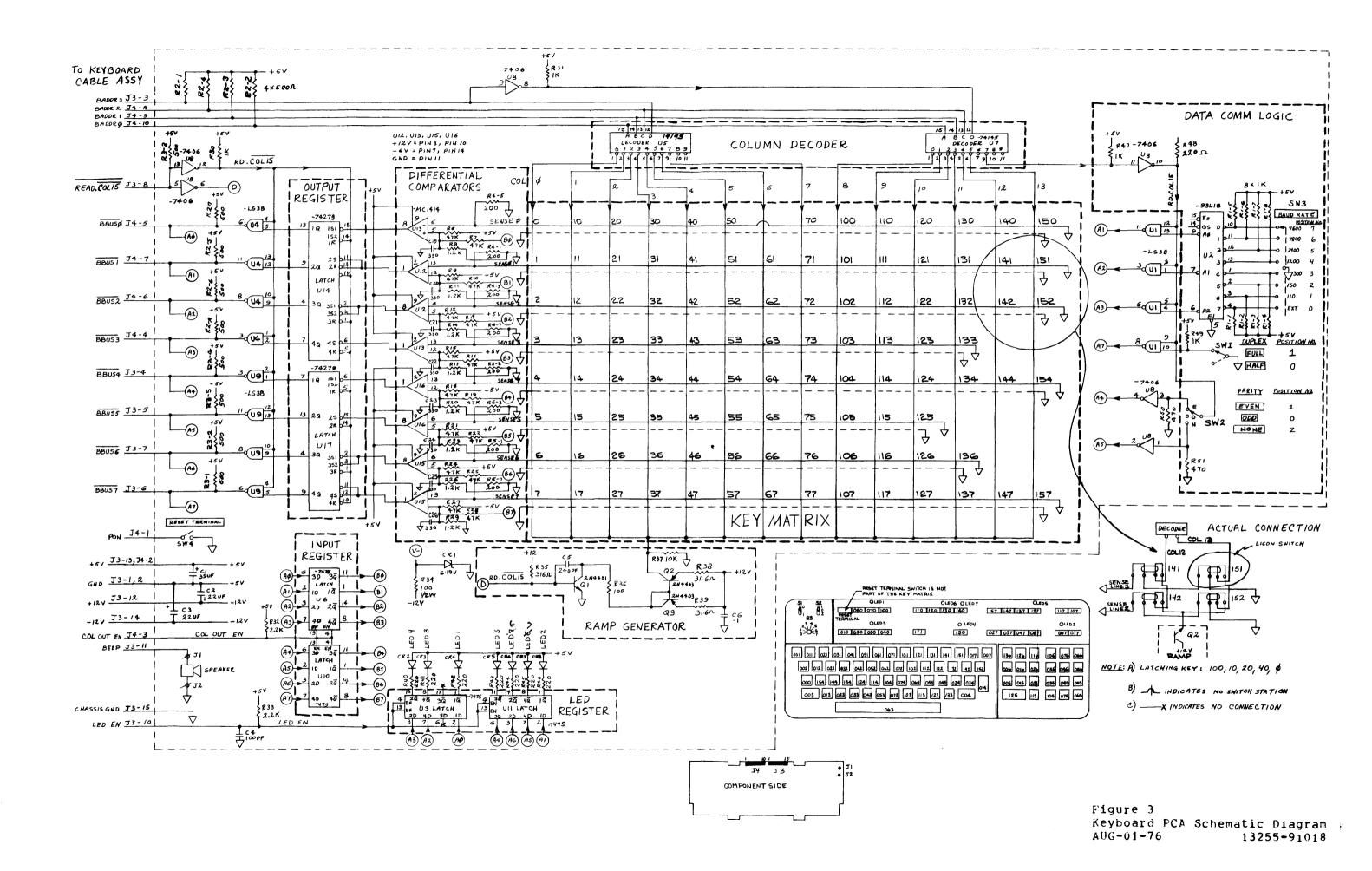
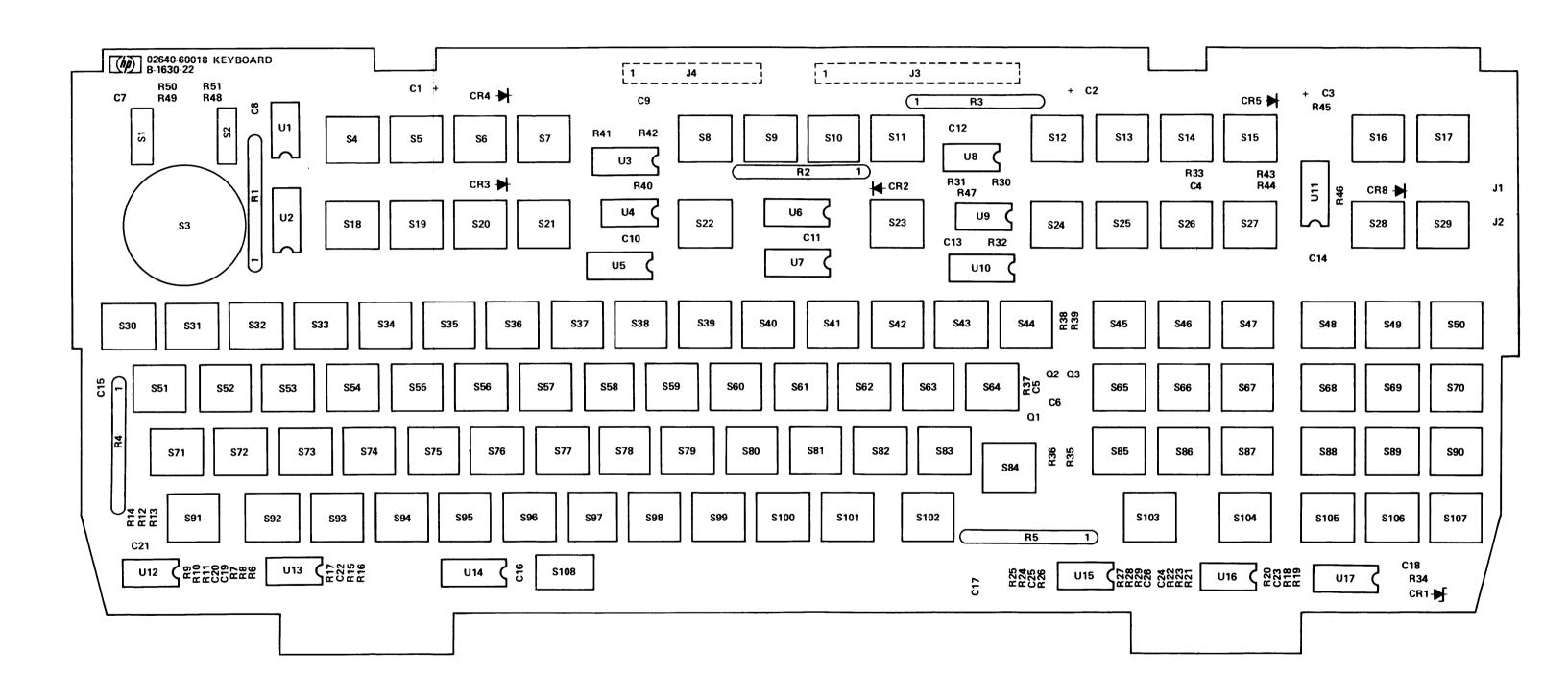
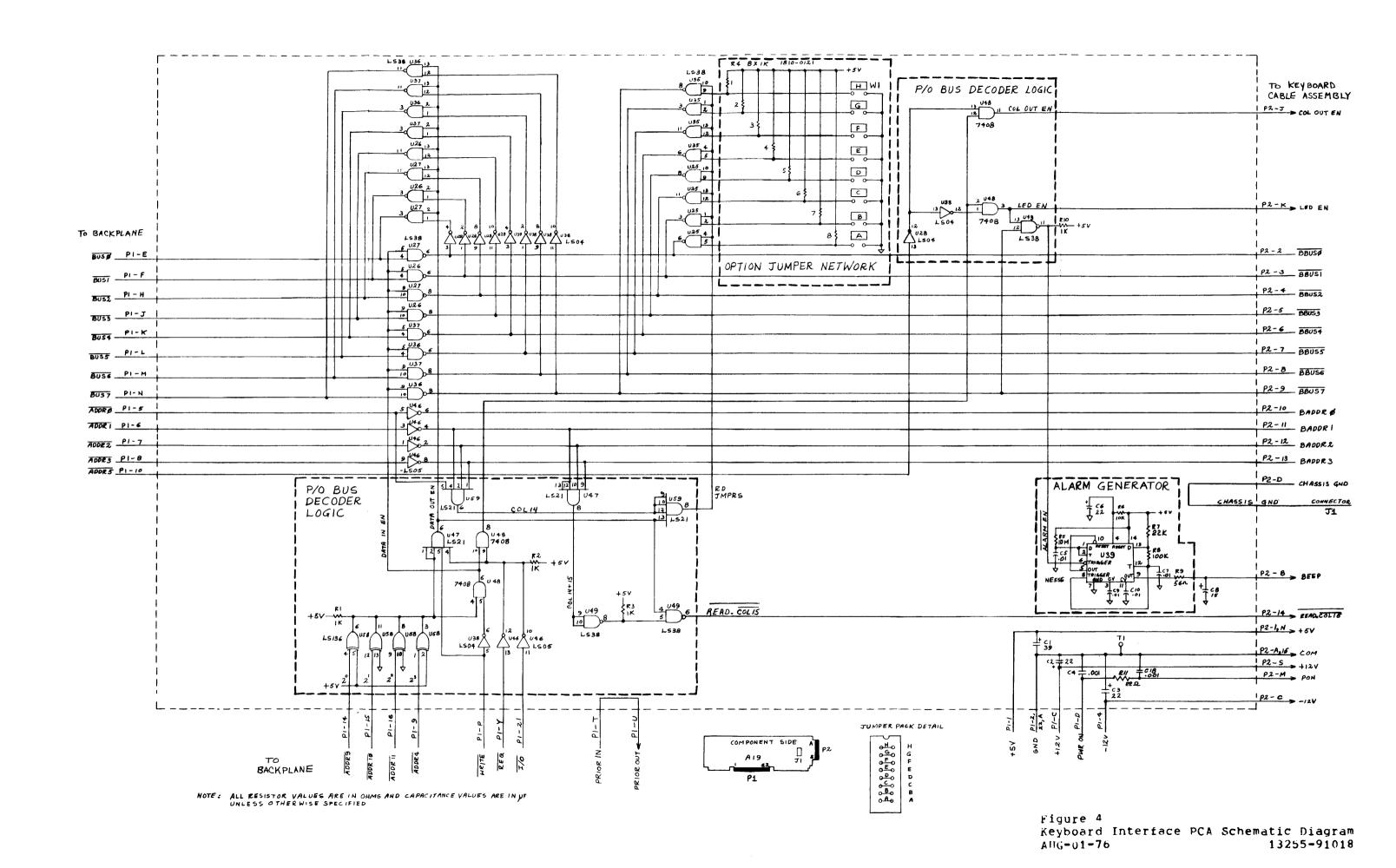
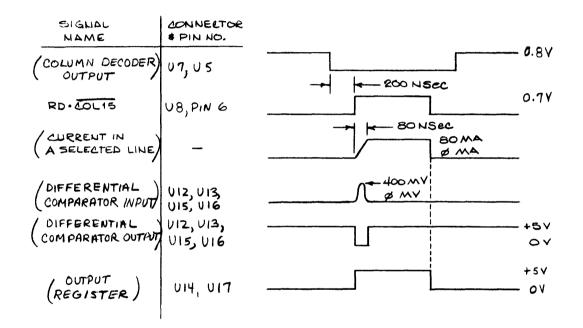


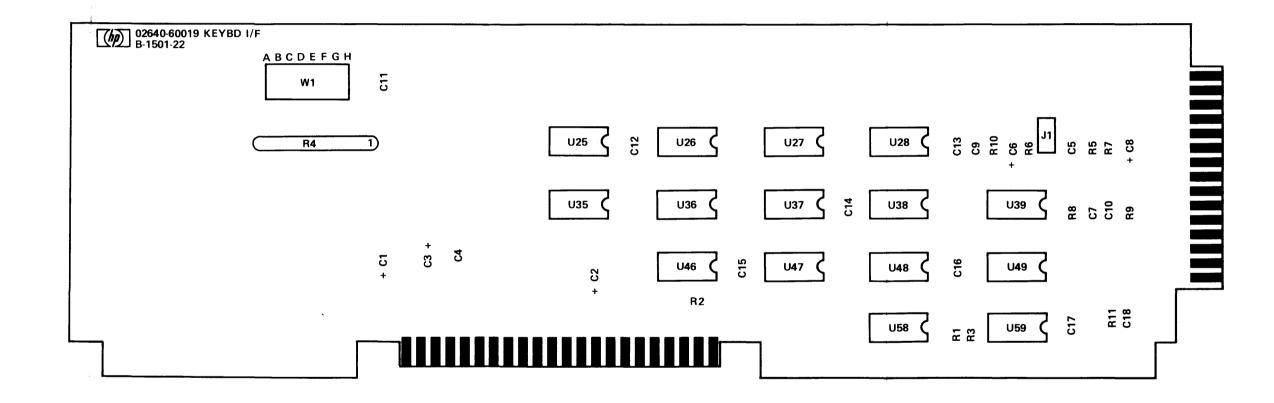
Figure 2 Keyboard Module Block Diagram AUG-01-76 13255-91018











Reference HP Part On Description Mfr Mfr Double Number					
Designation	Number	Qty	Description	Code	Mfr Part Number
	02 640-60018	1	2640A KEYBOARD ASSEMBLY DATE CODE: B-1630-22 REVISION DATE: 08-25-76	28 <b>480</b>	02640-60018
C1 C2 C3 C4 C5	0160-0393 0160-0228 0160-0228 0160-2204 0140-0199	1 2 1 1	CAPACITOR—FXC 39UF 10% 10VDC TA CAPACITOR—FXD 22UF 10% 15VDC TA CAPACITOR—FXC 22UF 10% 15VDC TA CAPACITOR—FXD 100PF 5% 300WVDC MICA CAPACITOR—FXD 240PF +- 5% 300WVDC MICA	56289 56289 56289 28480 72136	150D396X9010B2 150D226X9015B2 150D226X9015B2 0160-2204 DM15F241J0300wV1CR
C6 C7 L8 L9 C10	0150-0121 0160-2055 0160-2055 0160-2055 0160-2055	1 12	CAPACITOR-FXC .1UF +80-20% 50WVDC CER CAPACITOR-FXD .01UF +80-20% 10CWVDC CER CAPACITOR-FXD .01UF +80-20% 100WVDC CER CAPACITOR-FXC .01UF +80-20% 100WVDC CER CAPACITOR-FXO .01UF +80-20% 100WVDC CER	28480 28480 28480 28480 28480	0150-0121 0160-2055 0160-2055 0160-2055 0160-2055
C11 C12 C13 C14 C15	0160-2055 0160-2055 0160-2055 0160-2055 0160-2055		CAPACITOR-FXD .01UF +80-20% 100HYDC CER CAPACITOR-FXD .01UF +80-20% 100HYDC CER CAPACITOR-FXD .01UF +80-20% 100HYDC CER CAPACITOR-FXD .01UF +80-20% 100HYDC CER CAPACITOR-FXD .01UF +80-20% 100HYDC CER	28480 28480 28480 28480 28480	0160-2055 0160-2055 0160-2055 0160-2055 0160-2055
C16 C17 C18 C19 C20	0160-2055 0160-2055 0160-2055 0160-3572 0160-3572	8	CAPACITOR-FXD .01UF +80-20% 100MYDC CER CAPACITOR-FXD .01UF +80-20% 100MYDC CER CAPACITOR-FXD .01UF +80-20% 100MYDC CER CAPACITOR-FXD 330PF +-10% 500MYDC CER CAPACITOR-FXD 330PF +-10% 500MYDC CER	28480 28480 28480 28480 28480	0160-2055 0160-2055 0160-2055 0160-3572 0160-3572
C21 C22 C23 C24 C25	0160-3572 0160-3572 0160-3572 0160-3572 0160-3572		CAPACITOR-FXC 330PF +-10% 500HVDC CER CAPACITOR-FXD 330PF +-10% 500HVDC CER	28480 28480 28480 28480 28480	0160-3572 0160-3572 0160-3572 0160-3572 0160-3572
C26	0160-3572		CAPACITOR-FXD 330PF +-10% 500hVDC CER	28480	0160-3572
CRI	1962-0049	1	DIODE-ZNR 6.19V 5% DO-7 PD=.4W TC=+.022%	28480	1902-0049
E1 E2 E3 E4 E5	0360-0124 0360-0124 0360-0124 0360-0124 0360-0124	5	TERMINAL-STUD SGL-PIN PRESS-MTG TERMINAL-STUB SGL-PIN PRESS-MTG TERMINAL-STUD SGL-PIN PRESS-MTG TERMINAL-STUD SGL-PIN PRESS-MTG TERMINAL-STUD SGL-PIN PRESS-MTG	28480 28480 28480 28480 28480	0360-0124 0360-0124 0360-0124 0360-0124 0360-0124
Q1 Q2 Q3	1854-0467 1853-0271 1853-0271	1 2	TRANSISTOR NPN 2N4401 SI TO-92 PD=310MW TRANSISTOR PNP 2N4403 SI TO-92 PD=310MW TRANSISTOR PNP 2N4403 SI TO-92 PD=310MW	04713 04713 04713	2N4401 2N4403 2N4403
R1 R2 R3 R4 R5	1810-0121 1810-0132 1810-0132 1810-0163 1810-0163	1 2 2	NETWORK-RES 9-PIN-SIP .15-PIN-SPCG	28480 28480 28480 28480 28480	1810-0121 1810-0132 1810-0132 1810-0163 1810-0163
R6 R7 R8 M9 K10	0683-4735 0683-4735 0683-1225 0683-4735 0683-4735	16 8	RESISTOR 47K 5% .25W FC TC=-400/+800 RESISTOR 47K 5% .25W FC TC=-400/+800 RESISTOR 1.2K 5% .25W FC TC=-400/+700 RESISTOR 47K 5% .25W FC TC=-400/+800 RESISTOR 47K 5% .25W FC TC=-400/+800	01121 01121 01121 01121 01121	CB4735 CB4735 CB1225 CB4735 CB4735
R11 R12 K13 R14 R15	0683-1225 0683-4735 0683-4735 0683-1225 0683-4735		RESISTOR 1.2K 5% .25W FC TC=-400/+700 RESISTOR 47K 5% .25W FC TC=-400/+800 RESISTOR 47K 5% .25W FC TC=-400/+800 RESISTOR 1.2K 5% .25W FC TC=-400/+700 RESISTOR 47K 5% .25W FC TC=-400/+800	01121 01121 01121 01121 01121	CB1225 CB4735 CB4735 CB1225 CB4735
K16 R17 K18 R19 R20	0683-4735 0683-1225 0683-4735 0683-4735 0683-1225		RESISTOR 47K 5% .25W FC TC=-400/+800 RESISTOR 1.2K 5% .25W FC TC=-400/+800 RESISTOR 47K 5% .25W FC TC=-400/+800 RESISTOR 47K 5% .25W FC TC=-400/+800 RESISTOR 1.2K 5% .25W FC TC=-400/+700	01121 01121 01121 01121 01121	CB4735 CB1225 CB4735 CB4735 CB4735 CB1225
H21 H22 H23 H24 H25	0683-4735 0683-4735 0683-1225 0683-4735 0683-4735		RESISTOR 47K 5% .25M FC TC=-400/+800 RESISTOR 47K 5% .25M FC TC=-400/+800 RESISTOR 1.2K 5% .25M FC TC=-400/+700 RESISTOR 47K 5% .25M FC TC=-400/+800 RESISTOR 47K 5% .25M FC TC=-400/+800	01121 01121 01121 01121 01121	CB4735 CB4735 CB1225 CB4735 CB4735
K26 R27 K28 K29 K30	0683-1225 0683-4735 0683-4735 0683-1225 0683-1025	4	RESISTOR 1.2K 5% .25W FC TC=-400/+700 RESISTOR 47K 5% .25W FC TC=-400/+800 RESISTOR 47K 5% .25W FC TC=-400/+800 RESISTOR 1.2K 5% .25W FC TC=-400/+700 RESISTOR 1K 5% .25W FC TC=-400/+600	01121 01121 01121 01121 01121	C81225 C84735 C84735 C81225 C81025
R31 R32 R33 R34 R35	06 83-1025 06 83-2225 06 83-2225 06 86-1015 06 98-3402	2 1 1	RESISTOR 1K 5% .25M FC TC=-400/+600 RESISTOR 2.2K 5% .25M FC TC=-400/+700 RESISTOR 2.2K 5% .25M FC TC=-400/+700 RESISTOR 100 5% .5M CC TC=00+529 RESISTOR 316 1% .5M F TC=0+-100	01121 01121 01121 01121 01121 91637	C81025 C82225 C82225 E81015 MFF-1/2-10

Reference Designation	HP Part Number	Qty	Description	Mfr Code	Mfr Part Number
K30 K37 K3d R39 K4U	0757-0198 0683-1035 0757-0180 0757-0180 0683-2215	1 1 2	2640A-KEYBOARD ASSEMBLY, CONT'D.  RESISTOR 100 1% -5W F TC=0+-100  MESISTOR 10K 5% -25W FC TC=-40C/+700  RESISTOR 31.6 1% -125W F TC=0+-100  RESISTOR 31.6 1% -125W F TC=0+-100  RESISTOR 32.0 1% -25W FC TC=-400/+600	19701 01121 24546 24546 01121	MF7C1/2-TQ-101-F CB1035 C4, T-0 C4, T-0 CB2215
R41 R42 R43 R44 R45	0683-2215 0683-2215 0683-2215 0683-2215 0683-2215		RESISTOR 220 5% .25M FC TC=-400/+600 RESISTOR 220 5% .25M FC TC=-400/+600	01121 01121 01121 01121 01121	CB2215 CB2215 CB2215 CB2215 CB2215
K40 K47 R48 K47 R50	06 83-2215 06 83-1025 06 83-2215 06 83-1025 06 83-4715	2	RESISTOR 220 5% .25W FC TC=-400/+600 RESISTOR 1K 5% .25W FC TC=-400/+600 RESISTOR 220 5% .25W FC TC=-400/+600 RESISTOR 1K 5% .25W FC TC=-400/+600 RESISTOR 470 5% .25W FC TC=-400/+600	01121 01121 01121 01121 01121	C82215 C81025 C82215 C81025 C84715
K51	06 83-4715		RESISTOR 470 5% -25m FC TC=-400/+600	01121	CB4715
SW1 SW2 SW3 SW4 SW5	3101-1858 3101-1859 3100-3313 3101-1745 3101-1899	1 1 1 1 99	SWITCH-TGL SUBMIN SPDT NS .02A 20VAC/DC SWITCH-TGL SUBMIN SPDT NS .02A 20VAC/DC SWITCH-RTRY .812 IN CTR SPCG IDX-ANG=36 SWITCH-PB SPST-NC MOM .12A 28VAC SWITCH-PB SPST-NO MOM .08A	09353 09353 28480 28480 28480	7101-L2YC8E 7103-L2YC8E 3100-3313 3101-1745 3101-1899
SWO SW7 SWO SWES	31(1-1899 31(1-1900 31(1-1899 31(1-1899 31(1-1899	5	SWITCH-PB SPST-NO MOM .08A SWITCH-PB SPST-NO ALTNG .08A SWITCH-PB SPST-NC MOM .08A SWITCH-PB SPST-NC MOM .08A SWITCH-PB SPST-NC MOM .08A	28480 28480 28480 28480 28480	3101-1899 3101-1900 3101-1899 3101-1899 3101-1899
SW11 SW12 SW13 SW14 SW15	31C1-1899 3101-1899 31G1-1899 31C1-1899 31C1-1899		SWITCH-P8 SPST-NO MOM .08A	28480 28480 28480 28480 28480	3101-1899 3101-1899 3101-1899 3101-1899 3101-1899
SM10 SM17 SM16 SM10	31 C1-1899 31 C1-1899 31 C1-1900 31 C1-1900 31 C1-1899		SWITCH-PB SPST-NO MOM .08A SWITCH-PB SPST-NO MOM .08A SWITCH-PB SPST-NO ALTNG .08A SWITCH-PB SPST-NO ALTNG .08A SWITCH-PB SPST-NO MOM .08A	28480 28480 28480 28480 28480	3101-1899 3101-1899 3101-1900 3101-1900 3101-1899
5m21 5m22-	3101-1900		SWITCH-PB SPST-NO ALTNG .08A	28480	3101-1900
Sw70 Sw71	31C1-1899 31C1-1900		SWITCH-PB SPST-NC MGM .08A SWITCH-PB SPST-NG ALTNG .U8A	28480 28480	3101-1899 3101-1900
Sw72- Sw108	3101-1899		SWITCH-PB SPST-NO MOM .OBA	28480	3101-1899
U1 U2 U3 U4 U5	1820-1209 1820-0987 1820-0301 1820-1209 1820-0491	3 1 4	IC-DIGITAL SN74LS38N ITL LS QUAD 2 NAND IC-DIGITAL 93L18PC TTL L 8 IC-DIGITAL SN7475N TTL D-TYPE IC-DIGITAL SN74LS38N ITL LS QUAD 2 NAND IC-DIGITAL SN74LS38N TTL LS QUAD 2 NAND	01295 07263 01295 01295 01295	SN74LS38N 93L18PC SN7475N SN74LS38N SN74LS38N
U6 U7 U8 U9 U10	1820-0301 1820-0491 1820-0471 1820-1209 1820-0301	1	IC-DIGITAL SN7475N TIL D-TYPE IC-DIGITAL SN74145N TIL 4 BCD-TO-DEC IC-DIGITAL SN7406N TIL HEX I IC-DIGITAL SN74LS38N TIL LS QUAD 2 NAND IC-DIGITAL SN74T5N TIL LS QUAD 2 NAND	01295 01295 01295 01295 01295	SN7475N SN74145N SN7406N SN74L53BN SN7475N
U11 U12 U13 U14 U15	1820-0301 1826-0051 1826-0051 1820-1089 1826-0051	4 2	IC-DIGITAL SN7475N TTL D-TYPE IC MC 1414 COMPARATOR IC MC 1414 COMPARATOR IC-DIGITAL SN74279N TTL QUAD IC MC 1414 CCMPARATOR	01295 04713 04713 01295 04713	SN7475N HC1414P MC1414P SN74279N HC1414P
010 017	1826-0051 1820-1089		IC MC 1414 COMPARATOR IC—DIGITAL SM74279N TTL QUAD	04713 01295	MC1414P SN74279N
			MISCELLANEOUS		
	0360-0040 0360-0268 0370-1129 0360-0371 0360-0585	3 1 1 7 4	TERMINAL-SLDR LUG LK-MTG FOR-#1/4-SCR TERMINAL-SLDR LUG LK-MTG FOR-#6-SCR KNOB-CQDC-BAR AND PTR -5 IN JGK SPACER-RND -375LG -1711D -25DD FBR STANDOFF-RVI-ON -531LG 6-32THD -250D BRS	73734 78189 28480 83330 28480	1958 2103-06-00 0370-1129 2131 0380-0585
	0470-0010 1450-0528	7	ADHESIVE, LUCTITE 404 CYANDACRYLATE SKT-LAMP BIPIN	05972	404
	2360-0197 2950-0052	. <b>5</b> 2	SCREW-MACH 6-32 •375-IN-LG PAN-HD-POZI NUT-HEX-DBL-CHAM 1/4-40-THD •062-THK	28480 28480	2360-0197 2950-0054
	3050-0699 8151-0613 02640-00003 02640-00041	2 1 1	WASHER-FL MTLC NG12 .25-IN-ID .5-IN-OD WIRE 22AMG 1X22 PLATE, SWITCH MOUNTING SPRING, CONTACT	28480 28480 28480 28480	3050-0099 8151-0014 02640-00003 02640-00041
J3 J4	1251-3198 1251-3475	1	CONN 15 PIN CONN MALE 10 POST		

Reference	HP Part		- Treplacedole 1 unto	Mfr	
Designation	Number	Qty	Description	Code	Mfr Part Number
	02 640-60019	1	KEYBOARD INTERFACE ASSEMBLY DATE CODE: B-1501-22 REVISION DATE: 04-15-76	28480	02640-60019
C1 C2 C3 C4 C5	0180-0393 0180-0228 0180-0228 0160-3456 0160-0161	1 3 2 2	CAPACITOR-FXD 39UF+-10% 10VDC TA CAPACITOR-FXD 22UF+-10% 15VDC TA CAPACITOR-FXD 22UF+-10% 15VDC TA CAPACITOR-FXD 1000PF +-10% 1000WVDC CER CAPACITOR-FXD -01UF +-10% 200WVDC POLYE	56289 56289 56289 28480 56289	150D396X9010B2 150D226X9015B2 150D226X9015B2 0160-3456 292R10392
66 67 68 69	01 60-0228 01 60-0161 01 60-1746 0160-2055 0160-2055	1 9	CAPACITOR-FXD 22UF+-10% 15VDC TA CAPACITOR-FXD .01UF10% 200MVDC POLYE CAPACITOR-FXD .5UF+-10% 20VDC TA CAPACITOR-FXD .01UF +80-20% 100MVDC CER CAPACITOR-FXD .01UF +80-20% 100MVDC CER	56289 56289 56289 28480 28480	1500226X901582 292P10392 1500156X902082 0160-2055 0160-2055
G11 G12 G13 G14 G15	0160-2055 0160-2055 0160-2055 0160-2055 0160-2055		CAPACITOR-FXD .01UF +80-20% 100HVDC CER	28480 28480 28480 28480 28480	0160-2055 0160-2055 0160-2055 0160-2055 0160-2055
C16 C17 C18	0160-2055 0160-2055 0160-3456		CAPACITOR-FX8 -01UF +80-20% 100MVDC CER CAPACITOR-FX8 -01UF +80-20% 100MVDC CER CAPACITOR-FX0 1000PF +-10% 1000MVDC CER	28480 28480 28480	0160-2055 0160-2055 0160-3456
£1	0360-0124	1	TERMINAL-STUB SGL-PIN PRESS-MTG	28480	0360-0124
RI RI	1251-1126 0683-1025	1° 10	CONNECTOR-SGL CONT SKT .08-IN-BSC-SZ RND RESISTOR 1K 5% .25W FC TC=-400/+600	74970 01121	105-0754-001 CB1025
R2 R3 R4 R5	0683-1025 0683-1025 1810-0121 0683-1065	ı	RESISTOR 1K -5% -25W FC TC=-400/+600 RESISTOR 1K 5% -25W FC TC=-400/+600 NETWORK-RES 9-PIN-SIP -15-PIN-SPCG RESISTOR 10W 5% -25W FC TC=-900/+1100	01121 01121 28480 01121	CB1025 CB1025 1810-0121 CB1065
К6 R7 R8	0683-1035 0683-2235 0683-1045	] 1 1	RESISTOR 10K 5% -25W FC TC=-400/+700 RESISTOR 22K 5% -25W FC TC=-400/+800 RESISTOR 100K 5% -25W FC TC=-400/+800	01121 01121 01121	C81035 C82235 CB1045
K9 R10	06 <b>66-5</b> 605 06 <b>83-1</b> 025	1	RESISTOR 56 5% .5M CC TC=0+412 RESISTOR 1K 5% .25W FC TC=-400/+600	01121 01121	EB5605 CB1025
N72 NTT	0663-2205	1	RESISTOR 22 5% .25W FC TC=-400/+500	01121	CB2205
U26 U27 U24 U35	1820-1209 1820-1209 1820-1209 1820-1199 1820-1209	7 2	IC-DIGITAL SA74LS38N TTL LS QUAD 2 NAND IC-DIGITAL SA74LS38N TTL LS QUAD 2 NAND IC-DIGITAL SA74LS38N TTL LS QUAD 2 NAND IC-DIGITAL SA74LS04N TTL LS HEX 1 IC-DIGITAL SA74LS38N TTL LS QUAD 2 NAND	01295 01295 01295 01295 01295	SN74L S38N SN74L S38N SN74L S38N SN74L S04N SN74L S38N
U36 U37 U38 U39 U46	1820-1209 1820-1209 1820-1199 1826-0205 1820-1200	1 1	IG-DIGITAL SN74LS38N TTL LS QUAD 2 NAND IG-DIGITAL SN74LS38N TTL LS QUAD 2 NAND IG-DIGITAL SN74LS04N ITL LS HEX I IG NE 556 TIMER IG-DIGITAL SN74LS05N TTL LS HEX 1	01295 01295 01295 18324 01295	SN74L S38N SN74L S38N SN74L S04N NE556A SN74L S05N
U47 U48 U49 U58 U59	1820-1205 1820-0511 1820-1209 1820-1215 1820-1205	2 1 1	IC-DIGITAL SN74LS2IN TTL LS DUAL 4 AND IC-DIGITAL SN74OBN TTL QUAD 2 AND IC-DIGITAL SN74LS3BN TTL LS QUAD 2 NAND IC-DIGITAL SN74LS136N TTL LS QUAD 2 IC-DIGITAL SN74LS136N TTL LS QUAD 2	01295 01295 01295 01295 01295	SN74L S2 1N SN7408N SN74L S38N SN74L S136N SN74L S2 1N
W1 W1A W1B W1C W1D W1F W1F W1G	12 CO-0482 12 58-0124 12 58-0124 12 58-0124 12 58-0124 12 58-0124 12 58-0124 12 58-0124	1 8	SUCKET-IC 16-CONT DIP-SLDR PIN-PROGRAMMING JUMPER:.30 CONTACT	91506 91506 91506 91506 91506 91506 91506 91506	516-AG1 10 8136-475G1 8136-475G1 8136-475G1 8136-475G1 8136-475G1 8136-475G1 8136-475G1

Reference Designation	HP Part Number	Qty	Description	Mfr Code	Mfr Part Number
	02640-60030	1	G.P. KEYBOARD ASSEMBLY REVISION DATE: 09-11-76	28480	02640-69030
	0370-0620 0370-2260	1	KEYCAP, DBLC KEYCAP, 1	28480 28480	0370-0620 0370-2260
	0370-2261 0370-2262	l i	KEYCAP. 2"	28480 28480	0370-2261 0370-2262
	0370-2263	i	KEYCAP, 3# Keycap, 4\$	28480	0370-2263
	0370-2264 0370-2265	1 1	KEYCAP, 5% KEYCAP, 6%	28480 28480	0370-2264 0370-2265
	J370-2266	1 1	KEYCAP, 7º	28480	0370-2266
	0370-2267 0370-2268	1	KEYCAP, 8( KEYCAP, 9)	28480 28480	0370-2267 0370-2268
	0370-2270 0370-2271	1	KEYCAP, A KEYCAP, B	28480 28480	0370-2270 0370-2271
	0370-2272	1 1	KEYCAP, C	28480	0370-2272
	0370-2273 0370-2274	1 1	KEYCAP, D KEYCAP, E	28480 28480	0370-2273 0370-2274
	0370-2275	1	KEYCAP, F	28480	0370-2275 0370-2276
	0370-2276 0370-2277	1 1	KEYCAP, G KEYCAP, H	28480 28480	0370-2276 0370-2277
	0370-2∠78 0370-2279	1	KEYCAP. I KEYCAP. J	28480 28480	0370-2278 0370-2279
	0370-2280	1 1	KEYCAP, K KEYCAP, L	28480 28480	0370-2280 0370-2281
	0370-2281 0370-2282	1 1	KEYCAP, N	28480	0370-2282
	0370-2283 0370-2284	1	KEYCAP. N KEYCAP. G	28480 28480	0370-2283 0370-2284
	0370-2285	1	KEYCAP. P	28480	0370-2285
	0370-2286 0370-2287	1 1	KEYCAP. Q Keycap. R	28480 28480	0370-2286 0370-2287
	0370-2288 0370-2289	i 1	KEYCAP, S KEYCAP, T	28480 28480	0370-2288 0370-2289
	0370-2290	1	KEYCAP, U	28480	0370-2290
	0370-2291 0370-2292	1	KEYCAP. V KEYCAP. N	28480 28480	0 <b>370-2291</b> 0 <b>370-229</b> 2
	0370-2293 0370-2294	i	KEYGAP, X KEYGAP, Y	28480 28480	0370-22 93 0370-22 94
	0370-2295	1	KEYCAP. Z	28480	0370-2295
	0370-2296 0370-2297	1 1	KEYCAP. < KEYCAP. >	28480 28480	0370-2296 0370-2297
	0370-2298 0370-2312	i	KEYCAP, 7/ KEYCAP, 1	28480 28480	0370-2298 0370-2312
	0370-2313	i	KEYCAP, 2	28480	0370-2313
	0370-2314 0370-2315		KEYCAP, 3 Keycap, 4	28480 28480	0 <b>370-2314</b> 0 <b>370-231</b> 5
	0370-2316 0370-2317	1 1	KEYCAP, 5 KEYCAP, 6	28480 28480	0370-2316 0370-2317
	0370-2318	1	KEYCAP, 7	28480	0370-2318
	0370-2319 0370-2320	1 1	KEYCAP, 8 Keycap, 9	28480 28480	0 <b>370-2319</b> 0 <b>370-232</b> 0
	0370-2322 0370-2324	1 1	KEYCAP KEYCAP. +:	28480 28480	0 <b>370-</b> 2322 0 <b>370-</b> 2324
	0370-2325	1	KEYCAP, COLON	28480	0370-2325
	0370-2635 0370-2636		KEYCAP, RETURN KEYCAP, SHIFT	28480 28480	0370-2635 0370-2636
	0370-2637 0370-2638	1	KEYCAP, CNTL KEYCAP, NEXT PG	28480 28480	0370-2637 0370-2638
	0370-2639	ļ	KEYCAP, PREV PG	28480	0370-2639
	0370-2640 0370-2641	1 1	KEYCAP, ARROW KEYCAP, O	28480 28480	0370-2640 0370-2641
	0370-2642 0370-2982	i 1	KEYCAP, 45 ARROW KEYCAP, CLR DISPL	28480 28480	0 <b>370-2642</b> 0 <b>370-</b> 2982
	0370-2644	14	KEYCAP, FUNCTION	28480	0370-2644
	0370-2646 0370-2647		KEYCAP, ESC KEYCAP, LOCK	28480 28480	0370-2646 0370-2647
	0370-2648 0370-2649	1	KEYCAP, =- KEYCAP, LINE FEED	28480 28480	0370-2648 0370-2649
	0370-2650	] ]	KEYCAP, DEL-	28480 28480	0370-2650 0370-2651
	0370-2651 0370-2652	1 1	KEYCAP, SLASH KEYCAP, BKT LEFT	28480	0370-2652
	0370-2653 0370-2654	1 1	KEYCAP, BKT RT KEYCAP, APPROX	28480 28480	0370-2653 0370-2654

Reference	HP Part	0.	Reputedole I uns	Mfr	
Designation	Number	Qty	Description	Code	Mfr Part Number
	0370-2655 0370-2656 0370-2657 0370-2658 0370-2659	] ] ]	G.P. KEYBOARD ASSEMBLY, CONT'D. KEYCAP, AT KEYCAP, CLR TAB KEYCAP, SET TAB KEYCAP, ROLL UP KEYCAP, ROLL UP	28480 28480 28480 28480 28480	0370-2655 0370-2656 0370-2657 0370-2658 0370-2659
	0370-2765 0370-2766 0370-2767 0370-2768 0370-2769	] ] ] ]	KEYCAP, F1 KEYCAP, F2 KEYCAP, F3 KEYCAP, F4 KEYCAP, F5	28480 28480 28480 28480 28480	0370-2765 0370-2766 0370-2767 0370-2768 0370-2769
	0370-2770 0370-2771 0370-2772 0370-2898 04C3-0243	1 1 1 1 2	KEYCAP, F6 KEYCAP, F7 KEYCAP, F8 KEYCAP, RECT BUMPER, FOOT, WHITE RUBBER .38" W	28480 28480 28480 28480 00000	0370-2770 0370-2771 0370-2772 0370-2898 OBD
	04C3-0324 0470-0231 0850-1134 14C0-0440 1460-0691	4 1 1	BUMPER FOOT, GRAY PLASTIC 0.560° M COMPOUND:NUT LOCKING TUBING-FLEX .188-IO MPRN-RBR .062-MALL CABLE TIE .062-1.75-DIA .184-MC NYL SPRING-TRSN .531-IN-M 4-IN-LG MUM	76381 28480 28480 59730 28480	SJ-5025-GRAY 0470-0231 0890-1134 TY 35M 1460-0691
	1530-1737 1530-1738 2150-0918 2360-0193 2360-0201	2 2 8 2 1	PLUNGER FOR MTG SPACE BAR MECH:STL NP MOUSING. SPACE BAR. END MOUSING FOR MTG MASHER-LK HLCL NO6 .141-IN-IC SCREW-MACH 6-32 .25-IN-LG PAN-HD-POZI SCREW-MACH 6-32 .5-IN-LG PAN-HD-POZI	04426 04426 28480 28480 28480	80-550767 80-550774 2190-0918 2360-0193 2360-0201
	2360-0203 3050-0066 7120-1927 7120-4403 9160-0233	5 6 1 1	SCREM-MACH 6-32 -625-IN-LG PAN-HO-POZI WASHER-FL MTLC NO6 -147-IN-ID BLANK LABEL -625-IN-WO 1.5-IN-LG AL LABEL; IMFO LOUDSPEAKER	28480 28480 28480 28480 28480	2360-0203 3050-0066 7120-1927 7120-4403 9160-0233
	02640-00004 02640-00019 02640-40007 02640-40008 02640-60018	] ] ]	OVERLAY KEY8BARD KEY CAP-SPACE BASE, MEY8GARD COVER, KEYBOARD ASSY, 2640A KEYBOARD	28480 28480 28480 28480 28480	02640-00004 02640-00019 02640-40007 02640-48008 02640-60018
	02640-60041 02640-60081	1 1	ASSY, SPEAKER CABLE ASSY, CABLE KEYBOARD	28480 28480	02640-60041 02640-60081
CR2 ER3 CR4 GR5 GR8	1950-0486 1950-0486 1950-0486 1950-0486 1950-0486	5	LED-VISIBLE LUM-INT=1MCD IF=20MA-MAX LED-VISIBLE LUM-INT=1MCD IF=20MA-MAX LED-VISIBLE LUM-INT=1MCD IF=20MA-MAX LED-VISIBLE LUM-INT=1MCD IF=20MA-MAX LED-VISIBLE LUM-INT=1MCD IF=20MA-MAX	28480 28480 28480 28480 28480	1990-0486 1990-0486 1990-0486 1990-0486 1990-0486

Reference Designation	HP Part Number	Qty	Description	Mfr Code	Mfr Part Number
	J2 £40-60041	1	SPEAKER CARLE ASSEMBLY REVISION DATE: 05-15-76	28480	02640-60041
	12C0-0063 8120-1072	2	CONNECTOR-SGL CONT SKT RND CABLE-UNSHLD 26ANG 2-CNDCT	28480 28480	1200-0063 8120-1072
			!		

Reference Designation	HP Part Number	Qty	Description	Mfr Code	Mfr Part Number
	02 640-60081	1	KEYBOARD CABLE ASSEMBLY	28480	02640-60081
	0624-0098 0850-0215 0850-0291 0850-0771 1251-0159	2	REVISION DATE: 03-13-76  SCREM-TPG 4-40 .438-IN-LG PAN-HD-POZI TUBING-FLEX .102-ID PVC .016-WALL TUBING-HS .375-D/.187-RCVD .025-WALL TUBING-HS .125-D/.062-RCVD .02-WALL CONNECTOR-PC EDGE 15-CONT/ROW 2-ROWS	28480 96904 28480 92194 71785	0624-0099 400/461 FR-1 0890-0295 FIT 221 1/8 BLK 251-15-30-261
	1251-3073 1251-3202 1251-3537 1251-4339 1400-0493	22 1 1 1 2	CONNECTOR PC EDGE 19-CONTACH 2-ROWS  CONTACT-CONN FEM CRP CONNECTOR 15-PIN F POST TYPE CONNECTOR 10-PIN F POST TYPE POLARIZING KEY-PC EDGE CONN CABLE TIE .062-1.25-DIA .14-WD NYL	27264 27264 27264 27264 28480 59730	08-\$0-0107 09-50-7151 09-50-7101 1251-4339 TY 24M-8
	22(0-0149 2260-0002 3030-0009 8120-2126 5040-6004	1 1 1	SCREM-MACH 4-40 .625-IN-LG PAN-HD-POZI NUT-HEX-OBL-CHAM 4-40-IHD .062-IHK SCREM-SET 6-32 .375-IN-LG SMALL CUP-PT CABLE-SHLD 24AMG 24-CNDCT JGK-JKT CLAMP, CABLE, SMALL	28480 28480 28480 28480 28480	2200-0149 2260-0005 3030-0009 8120-2126 5040-6004
	5040-6072 5040-6086	1	MGUNTING BLOCK HOOD, CONNECTOR	28480 28480	5040-6072 5040-6086
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Reference Designation	HP Part Number	Qty	Description	Mfr Code	Mfr Part Number
	02640-60091	1	CYRILLIC KEYBOARD ASSEMBLY	28480	02640-60091
			REVISION DATE: 09-18-76		
	0370-1129	1	KNOB	28480	0370-1129
	0370-2312 0370-2313	1	KEYCAP, 1 KEYCAP, 2	28480 28480	0370-2312 0370-2313
	0370-2314 0370-2315	1	KEYCAP, 3 KEYCAP, 4	28480 28480	0370-2314 0370-2315
	0370-2316	1	KEYCAP. 5	28480	0370-2316
	0370-2317 0370-2318	1	KEYCAP, 6 KEYCAP, 7	28480 28480	0370-2317 0370-2318
	0370-2319 0370-2320	1	KEYCAP, 8 KEYCAP, 9	28480 28480	0370-2319 0370-2320
	0370-2322	1	KEYCAP	28480	0370-2322
	0370-2635	1	KEYCAP. RETURN	28480	0370-2635
	0370-2636 0370-2637	2 1	KEYCAP, SHIFT KEYCAP, CNTL	28480 28480	0370-2636 0370-2637
	0370-2638	î	KEYCAP, NEXT PG	28480	0370-2638
	7370-2639 0370-2640	1 4	KEYCAP, PREV PG KEYCAP, ARROW	28480 28480	0370-2639 0370-2640
	0370-2641	1	KEYCAP. O	28480	0370-2641
	0370-2982 0370-2644	1 14	KEYCAP, CLR DISPL KEYCAP, FUNCTION	28480 28480	0370 2982 0370 2644
	0370-2646	1	KEYCAP, ESC	28480	0370-2646
	0370-2656 0370-2657	1 1	KEYCAP, CLR TAB KEYCAP, SET TAB	28480 28480	0370-2656 0370-2657
	0370-2658	1	KEYCAP, ROLL UP	28480	0370-2658
	0370-2659	1	KEYCAP, ROLL DN	28480	0370-2659
	0370-2765	1	KEYCAP, F1 KEYCAP, F2	28480 28480	0370-2765 0370-2766
	0370-2766 0370-2767	1 1	KEYCAP, F3	28480	0370-2767
	03 70-2768 03 70-2769	1	KEYCAP, F4 KEYCAP, F5	28480 28480	0370-2768 0370-2769
	0370-2770	1	KEYCAP, F6	28480	0370-2770
	0370-2771	1	KEYCAP, F7	28480	0370-2771
	0370-2772 0370-2877	1 1	KEYCAP, F8 KEYCAP, SQUARE	28480 28480	0370-2772 0370-2877
	0370-2878	ĭ	KEYCAP, SQUARE	28480	0370-2878
	0370-2879	1	KEYCAP. SQUARE	28480 28480	0370-2879
	0370-2898 0403-0243	1 2	KEYCAP, RECT BUMPER, FOOT, WHITE RUBBER .38* W	00000	0370-2898 OBD
	0850-1134 1400-0054	1 2	TUBING-FLEX .188-ID NPRN-RBR .062-WALL CABLE CLAMP-NFCL .078-DIA .375-WD STL	28480 73734	0890-1134 1549
	1400-0440	1	CABLE TIE .062-1.75-DIA .184-WD NYL	59730	TY 35M
	1460-0691 1530-1737	1	SPRING-TRSN .531-IN-W 4-IN-LG MUW PLUNGER FOR MTG SPACE BAR MECH;STL NP	28480 04426	1460-0691 80-550747
	1530-1737 1530-1738 1950-0486	2	HOUSING, SPACE BAR, END HOUSING FOR MTG LED-VISIBLE LUM-INT=IMCD IF=20MA-MAX	04426 28480	80-550774 1990-0486
	2190-0488	6 8	MASHER-LK HLCL NO6 .141-IN-ID	28480	2190-0918
	2360-0193	2	SCREW-MACH 6-32 .25-IN-LG PAN-HD-POZI	28480	2360-0193
	04C3-0324 2360-0201	1 1	BUMPER FOOT, GRAY PLASTIC 0.560" W SCREW-MACH 6-32 .5-IN-LG PAN-HC-POZI	76381 28480	SJ-5025-GRAY 2360-0201
	2360-0203	5	SCREW-MACH 6-32 .625-IN-LG PAN-HD-POZI	28480	2360-0203
	3050-0066	6	WASHER-FL MTLC NO6 .147-IN-IC	28480	3050-0066 7130-1937
	7120-1927 7120-4403	1	SERIAL TAG LABEL, INFC	28480 28480	7120-1927 7120-4 <del>40</del> 3
	9160-0233 02640-00019	i	LOUDSPEAKER KEY CAP, SPACE	28480 28480	9160-0233 02640-00019
	02440-00051	1	GVERLAY KEYBGARD	28480	02640-00051
	02640-40007	1	BASE, KEYBOARD	28480	02640-40007 02640-40008
	02640-40008 02640-60018	1	COVER, KEYBOARD ASSY, 2640A KEYBOARD	28480 28480	02640-60018
	02640-60041	1	ASSY, SPEAKER CABLE	28480	02640-60041
1	02640-60081 02640-60114	1	ASSY, CABLE KEYBOARD ASSY, COVER KEYCAP	28480 28480	02640-6 <b>9</b> 081 02640-60114
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Reference Designation	HP Part Number	Qty	Description	Mfr Code	Mfr Part Number
	02440-60105	1	SWEDISH KEYBGARD ASSEMBLY REVISION DATE: 09-08-76	28480	02640-60105
	0370-2264	1	KEYCAP. 58	28480	0370-2264
	0370-0620 0370-2260	1	KEYCAP, DBLO KEYCAP, 1	28480 28480	0370-0620 0370-2260
	0370-2261 0370-2262	1	KEYCAP, 2* Keycap, 3#	28480 28480	0370-2261 0370-2262
	0370-2263	1	KEYCAP, 45	28480	0370-2263
	0370-2265 0370-2267	1	KEYCAP, 68 KEYCAP, 8(	28480 28480	0370-2265 0370-2267
	0370-2268 0370-2270	1 1	KEYCAP, 9) KEYCAP, A	28480 28480	0370-2268 0370-2270
	0370-2271 0370-2272	1 1	KEYCAP, B KEYCAP, C	28480	0370-2271
	0370-2273	1	KEYCAP, D	28480 28480	0370-22 <i>7</i> 2 0370-2273
	0370-2274 0370-2275	1	KEYCAP, E KEYCAP, F	28480 28480	0370-2274 0370-2275
	0370-2276 0370-2277	1	KEYCAP, G KEYCAP, H	28480	0370-2276
	0370-2278	1	KEYCAP, I	28480 28480	0370-2277 0370-2278
	0370-2279 0370-2280	1	KEYCAP, J KEYCAP, K	28480 28480	0370-2279 0370-2280
	0370-2281 0370-2282	1	KEYCAP, L	28480	0370-2281
	0370-2283	1	KEYCAP, M KEYCAP, N	28480 28480	0370-22 82 0370-22 83
	0370-2284 0370-2285	1	KEYCAP, O KEYCAP, P	28480 28480	0370-2284 0370-2285
	0370-2286	1	KEYCAP, Q KEYCAP, R	28480	0370-2286
	0370-2287 0370-2288	1	KEYCAP, S	28480 28480	0370-2287 0370-2288
	0370-2289 0370-2290	1 1	KEYCAP, T KEYCAP, U	28480 28480	0370-2289 0370-2290
	0370-2291 0370-2292	1 1	KEYCAP, V KEYCAP, H	28480	0370-2291
	0370-2293	1	KEYCAP, X	28480 28480	0370-2292 0370-2293
	0370-2294 0370-2295	1	KEYCAP, Y KEYCAP, Z	28480 28480	0370-2294 0370-2295
	0370-2312 0370-2313	1 1	KEYCAP, 1 KEYCAP, 2	28480 28480	0370-2312
	ú370-2314	1	KEYCAP, 3	28480	0370-2313 0370-2314
	0370-2315 0370-2316	1	KEYCAP, 4 KEYCAP, 5	28480 28480	0370-2315 0370-2316
	0370-2317 0370-2318	1 1	KEYCAP, 6 KEYCAP, 7	28480 28480	0370-2317 0370-2318
	0370-2319	1	KEYCAP, 8	28480	0370-2319
	0370-2320 0370-2322	1	KEYCAP, 9 KEYCAP, .	28480 28480	0 <b>370</b> -2320 0 <b>370</b> -2322
	0370-2635 0370-2636	1 2	KEYCAP, RETURN KEYCAP, SHIFT	28480 28480	0370-2635
	0370-2637	1	KEYCAP, CNTL	28480	0370-2636 0370-2637
	0370-2638 0370-2639	1	KEYCAP, NEXT PG KEYCAP, PREV PG	28480 28480	0370-2638 0370-26 <b>3</b> 9
;	0310-2640 0310-2642	4	KEYCAP, ARRON KEYCAP, 45 ARRON	28480 28480	0370-2640 0370-2642
	0370-2644	13	KEYCAP, FUNCTION	28480	0370-2644
	0370-2646 0370-2655	1	KEYCAP. ESC Keycap. At	28480 28480	0370-2646 0370-2655
	0370-2656 0370-2657	1	KEYCAP, CLR TAB KEYCAP, SET TAB	28480 28480	0370-2656 0370-2657
	0370-2658 0370-2659	1	KEYCAP, ROLL UP	28480	0370-2658
	03 70-2765	1	KEYCAP, RGLL DN KEYCAP, Fl	28480 28480	0370-2659 0370-2765
	0370-2766 0370-2767	1	KEYCAP。F2 KEYCAP。F3	28480 28480	0370-2766 0370-2767
	0370-2768 0370-2769	1 1	KEYCAP, F4 KEYCAP, F5	28480	0370-2768
	0370-2770	i	KEYCAP, P6	28480 28480	0370-2769 0370-2770
	0370-2771 0370-2772	i 1	KEYCAP。 F7 KEYCAP。 F8	28480 28480	0370-2771 0370-2772
	0370-2877 0370-2878	i	KEYCAP. BACK SPCE KEYCAP. TAB	28480	0370-2877
	0370-2898	1	KEYCAP, RECT	28480 28480	0370-2878 0370-2898
			-		

Reference Designation	HP Part Number	Qty	Description	Mfr Code	Mfr Part Number
	0370-2957 0370-2959 0370-2960 0370-2961 0370-2962	] 1 1 1	SWEDISH KEYBOARD ASSEMBLY, CONT'D.  KEYCAP, O"  KEYCAP, CARROT  KEYCAP, CARROT  KEYCAP, CARROT  KEYCAP, O=	28480 28480 28480 28480 28480	0370-2957 0370-2959 0370-2960 0370-2961 0370-2962
	0370-2963 0370-2964 0370-2965 0370-2966 0370-2967	1 1 1 1	KEYCAP, .: KEYCAP, KEYCAP, '* KEYCAP, +? KEYCAP, 7/	28480 28480 28480 28480 28480	0370-2963 0370-2964 0370-2965 0370-2966 0370-2967
	0370-2968 0370-2969 0370-297 0370-2982 04C3-0243	1 1 1 1 2	KEYCAP, KEYCAP, A. KEYCAP, A" KEYCAP, CLR DISPL BUMPER, FOOT, WHITE RUBBER .38" W	28480 28480 28480 28480 00000	0370-2968 0370-2969 0370-2970 0370-2982 080
	04C3-0324 0470-0231 0850-1134 14C0-0440 1460-0691	4 1 1 1	BUMPER FOOT, GRAY PLASTIC 0.560° W COMPOUND:NUT LOCKING TUBING-FLEX .188-ID MPRN-RBR .062-MALL CABLE TIE .062-1.75-DIA .184-WC NYL SPRING-TRSN .531-IN-W 4-IN-LG MUM	76381 28480 28480 59730 28480	SJ-5025-GRAY 0470-0231 0890-1134 TY 35M 1460-0691
	1530-1737 1530-1736 2150-0918 2360-0193 2360-0201	2 2 8 2 1	PLUNGER FOR MTG SPACE BAR MECH;STL NP HOUSING, SPACE BAR, END HOUSING FOR MTG WASHER-LK HLCL NO6 .141-IN-IC SCREW-MACH 6-32 .25-IN-LG PAN-HD-POZI SCREW-MACH 6-32 .5-IN-LG PAN-HD-POZI	04426 04426 28480 28480 28480	80-550767 80-550774 2190-0918 2360-0193 2360-0201
	2560-0203 3050-0066 7120-1927 7120-4403 9160-0233	5 6 1 1	SCREW-MACH 6-32 .625-IN-LG PAN-HD-POZI WASHER-FL MTAC NO6 .147-IN-ID SERIAL TAG LABEL, INFO LOUDSPEAKER	28480 28480 28480 28480 28480	2360-0203 3050-0066 7120-1927 7120-4403 9160-0233
	02640-00019 02640-00059 02640-40007 02640-40008 02640-60018	1 1 1 1	KEY CAP-SPACE KEYBOARD OVERLAY BASE, KEYBOARD COVER, KEYBOARD ASSY, 2640A MEYBOARD	28480 28480 28480 28480 28480	02640-00019 02640-08059 02640-48007 02640-40008 02640-60018
	02640-60041 02640-60081	1	ASSY, SPEAKER CABLE ASSY, CABLE KEYBOARD	28480 28480	02640-60041 02640-60081
CRZ CK3 CR4 CK3 CR3	1950-0486 1950-0486 1950-0486 1950-0486 1950-0486	5	LED-VISIBLE LUM-INT=1MCD IF=20MA-MAX LED-VISIBLE LUM-INT=1MCD IF=20MA-MAX LED-VISIBLE LUM-INT=1MCD IF=20MA-MAX LED-VISIBLE LUM-INT=1MCD IF=20MA-MAX LED-VISIBLE LUM-INT=1MCD IF=20MA-MAX	28480 28480 28480 28480 28480	1990-0486 1990-0486 1990-0486 1990-0486 1990-0486
	:				

Reference Designation	HP Part Number	Qty	Description	Mfr Code	Mfr Part Number
	02440-60113	1	NORWEGIAN KEYBOARO ASSEMBLY	28480	02640-60113
	03 70-0620 03 70-2767 03 70-2260 03 70-2261	1 1 1	REVISION DATE: 09-08-76  KEYCAP, DBLO KEYCAP, F3  KEYCAP, 1  KEYCAP, 2*	28480 28480 28480 28480	0370-0620 0370-2767 0370-2260 0370-2261
	0370-2262 0370-2263 0370-2264 0370-2265 0370-2267	1 1 1 1	KEYCAP, 3# KEYCAP, 4\$ KEYCAP, 5% KEYCAP, 66 KEYCAP, 8(	28480 28480 28480 28480 28480	0370-2262 0370-2263 0370-2264 0370-2265 0370-2267
	0370-2268 0370-2270 0370-2271 0370-2272 0370-2273	1 1 1 1	KEYCAP, 9) KEYCAP, A KEYCAP, B KEYCAP, C KEYCAP, D	28480 28480 28480 28480 28480	0370-2268 0370-2270 0370-2271 0370-2272 0370-2273
	0370-2274 0370-2275 0370-2276 0370-2277 0370-2278	1 1 1 1	KEYCAP, E  KEYCAP, F  KEYCAP, G  KEYCAP, H  KEYCAP, I	28480 28480 28480 28480 28480	0370-2274 0370-2275 0370-2277 0370-2277 0370-2278
	0370-2279 0370-2280 0370-2281 0370-2282 0370-2283 0370-2284	1 1 1 1 1	KEYCAP, J KEYCAP, K KEYCAP, M KEYCAP, N KEYCAP, O	28480 28480 28480 28480 28480 28480	0370-2279 0370-2280 0370-2281 0370-2282 0370-2283 0370-2284
	0370-2285 0370-2286 0370-2287 0370-2288 0370-2289	1 1 1 1	KEYCAP, P KEYCAP, Q KEYCAP, R KEYCAP, S KEYCAP, T	28480 28480 28480 28480 28480 28480	0370-2285 0370-2286 0370-2287 0370-2288 0370-2289
	0370-2290 0370-2291 0370-2292 0370-2293 0370-2294	1 1 1 1	KEYCAP, U KEYCAP, W KEYCAP, M KEYCAP, X KEYCAP, Y	28480 28480 28480 28480 28480	0370-2290 0370-2291 0370-2292 0370-2293 0370-2294
	0370-2295 0370-2312 0370-2313 0370-2314 0370-2315	1 1 1 1	KEYCAP, Z KEYCAP, Z KEYCAP, Z KEYCAP, 3 KEYCAP, 3	28480 28480 28480 28480	0370-2295 0370-2312 0370-2313 0370-2314
	0370-2316 0370-2317 0370-2318 0370-2319 0370-2320	1 1 1 1	KEYCAP, 5 KEYCAP, 7 KEYCAP, 7 KEYCAP, 8	28480 28480 28480 28480 28480 28480	0370-2315 0370-2316 0370-2317 0370-2318 0370-2319 0370-2320
	03 70-2322 03 70-2635 03 70-2636 03 70-2637 03 70-2638	1 1 2 1	KEYCAP, RETURN KEYCAP, SHIFT KEYCAP, CNTL KEYCAP, NEXT PG	28480 28480 28480 28480	0370-2322 0370-2635 0370-2636 0370-2637
	0370-2639 0370-2640 0370-2642 0370-2644 0370-2646	1 4 1 13	KEYCAP, BREV PG KEYCAP, ARROW KEYCAP, 45 ARROW KEYCAP, FUNCTION KEYCAP, ESC	28480 28480 28480 28480 28480 28480	0370-2638 0370-2639 0370-2640 0370-2642 0370-2644 0370-2646
	0370-2655 0370-2656 0370-2657 0370-2658 0370-2659	1 1 1 1	KEYCAP, AT KEYCAP, CLR TAB KEYCAP, SET TAB KEYCAP, ROLL UP KEYCAP, ROLL UN	28480 28480 28480 28480 28480	0370-2655 0370-2656 0370-2657 0370-2658 0370-2659
	0370-2765 0370-2766 0370-2768 0370-2769 0370-2770	1 1 1 1	KEYCAP, F1 KEYCAP, F2 KEYCAP, F4 KEYCAP, F5 KEYCAP, F6	28480 28480 28480 28480 28480	0370-2765 0370-2766 0370-2768 0370-2769 0370-2770
	0370-2771 0370-2772 0370-2877 0370-2878 0370-2898	1 1 1 1	KEYCAP, F7 KEYCAP, F8 KEYCAP, BACK SPCE KEYCAP, TAB KEYCAP, TAB	28480 28480 28480 28480 28480	0370-2771 0370-2772 0370-2877 0370-2878 0370-2898
		•		20700	33.3 2070

Reference Designation	HP Part Number	Qty	Description	Mfr Code	Mfr Part Number
	0370-2958 0370-2959 0370-2961 0370-2962 0370-2963	1 1 1 1	NORWEGIAN KEYBOARD ASSEMBLY, CONT'D.  KEYCAP, 0/  KEYCAP, DEL  KEYCAP, -  KEYCAP, -  KEYCAP, -  KEYCAP, .:	28480 28480 28480 28480 28480	0370-2958 0370-2959 0370-2961 0370-2962 0370-2963
	0370-2964 0370-2965 0370-2966 0370-2967 0370-2968	1 1 1 1	KEYCAP, '* KEYCAP, '* KEYCAP, +? KEYCAP, 7/ KEYCAP, ><	28480 28480 28480 28480 28480	0370-2964 0370-2965 0370-2966 0370-2967 0370-2968
	0370-2969 0370-2971 0370-2972 0370-2982 04C3-0243	1 1 1 2	KEYCAP, A. KEYCAP, U" KEYCAP, AE KEYCAP, CLR DISPL BUMPER, FOOT, WHITE RUBBER .38" W	28480 28480 28480 28480 00000	0370-2969 0370-2971 0370-2972 0370-2982 080
	04 03-0324 04 70-0231 08 50-1134 14 00-0440 14 60-0691	4 1 1 1	BUMPER FOOT, GRAY PLASTIC 0.560° W COMPOUND:MUT LOCKING TUBING-FLEX .188-ID NPRN-RBR .062-WALL CABLE TIE .062-1.75-DIA .184-WO NYL SPRING-TRSN .531-IN-W 4-IN-LG MUW	76381 28480 28480 59730 28480	SJ-5025-GRAY 0470-0231 0890-1134 TY 35M 1460-0691
	1530-1737 1530-1738 2190-0918 2360-0193 2360-0201	2 2 8 2 1	PLUNGER FOR MTG SPACE BAR MECH;STL NP HOUSING, SPACE BAR, END HOUSING FOR MTG WASHER-LK HLCL NO.—6 .141—IN-IC SCREW-MACH 6—32 .25—IN-LG PAN-HD-POZI SCREW-MACH 6—32 .5—IN-LG PAN-HC-POZI	04426 04426 28480 28480 28480	80-550767 80-550774 2190-0918 2360-0193 2360-0201
	2360-0203 3050-0066 7120-1927 7120-4403 9160-0233	5 6 1 1 1	SCREM-MACH 6-32 .625-IN-LG PAN-HD-POZI WASHER-FL MTLC NO6 .147-IN-IC SERIAL TAG LABEL, INFO LOUDSPEAKER	28480 28480 28480 28480 28480	2360-0203 3050-0066 7120-1927 7120-4403 9160-0233
	02 640-00019 02 640-00059 02 640-40007 02 640-40008 02 640-60018	1 1 1 1	HEY CAP, SPACE KEYBOARD OVERLAY BASE, KEYBOARD CUVER, KEYBOARD ASSY, 2640A KEYBOARD	28480 28480 28480 28480 28480	02640-09019 02640-00059 02640-40007 02640-40008 02640-60018
	02640-60041 02640-60081	1	ASSY, SPEAKER CABLE ASSY, CABLE KEYBDARD	28480 28480	02640-60041 02640-60081
CKZ CK3 CK4 CR5 CK3	1950-04d6 1950-0486 1950-0486 1950-0486 1950-0486	5	LED-VISIBLE LUM-INT=IMCD IF=20MA-MAX LED-VISIBLE LUM-INT=IMCD IF=20MA-MAX LED-VISIBLE LUM-INT=IMCD IF=20MA-MAX LED-VISIBLE LUM-INT=IMCD IF=20MA-MAX LED-VISIBLE LUM-INT=IMCD IF=20MA-MAX	28480 28480 28480 28480 28480	1990-0486 1990-0486 1990-0486 1990-0486 1990-0486
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Reference Designation	HP Part Number	Qty	Description	Mfr Code	Mfr Part Number
	02640-60114	1	CYRILLIC KEYCAP ASSEMBLY REVISION DATE: 03-13-76	28480	02640-60114
	5040-7431 5040-7846 02640-80108 02640-80109	48 48	KEYCAP INSERT KEYCAP LABEL, CYRILLIC SET 1 LABEL, CYRILLIC	28480 28480 28480 28480	5040-7431 5040-7846 02640-80108 02640-80109
	;				

Reference Designation	HP Part Number	Qty	Description	Mfr Code	Mfr Part Number
	02440-60145	1	ASSEMBLY, 26408 KEYBOARD REVISION DATE: 09-08-76	28480	02640-68145
	0370-0620 0370-2260 0370-2261 0370-2262 0370-2263	1 1 1 1	KEYCAP, DBLG KEYCAP, 1 KEYCAP, 2** KEYCAP, 3* KEYCAP, 4\$	28480 28480 28480 28480 28480	0370-0620 0370-2260 0370-2261 0370-2262 0370-2263
	0370-2264 0370-2265 0370-2266 0370-2267 0370-2268	1 1 1 1	KEYCAP, 5% KEYCAP, 6% KEYCAP, 7° KEYCAP, 8( KEYCAP, 8)	28480 28480 28480 28480 28480	0370-2264 0370-2265 0370-2266 0370-2267 0370-2268
	0370-2270 0370-2271 0370-2272 0370-2273 0370-2274	1 1 1 1	KEYCAP, A KEYCAP, B KEYCAP, C KEYCAP, D KEYCAP, E	28480 28480 28480 28480 28480	0370-2270 0370-2271 0370-2272 0370-2273 0370-2274
	0370-2275 0370-2276 0370-2277 0370-2278 0370-2279	1 1 1 1	KEYCAP, F KEYCAP, G KEYCAP, H KEYCAP, I KEYCAP, J	28480 28480 28480 28480 28480	0370-2275 0370-2276 0370-2277 0370-2278 0370-2279
	0370-2280 0370-2281 0370-2282 0370-2283 0370-2283	1 1 1 1 1	KEYCAP, K KEYCAP, N KEYCAP, N KEYCAP, O	28480 28480 28480 28480 28480	0370-2280 0370-2281 0370-2282 0370-2283 0370-2284
	0370-2285 0370-2286 0370-2287 0370-2288 0370-2289	1 1 1 1	KEYCAP, P KEYCAP, C KEYCAP, R KEYCAP, S KEYCAP, T	28480 28480 28480 28480 28480	0370-2285 0370-2286 0370-2287 0370-2288 0370-2289
	0370-2290 0370-2291 0370-2292 0370-2293 0370-2294	1 1 1 1	KEYCAP, U KEYCAP, b KEYCAP, X KEYCAP, X	28480 28480 28480 28480 28480	0370-2290 0370-2291 0370-2292 0370-2293 0370-2294
	0370-2295 0370-2296 0370-2297 0370-2298 0370-2312	1 1 1 1	KEYCAP, Z KEYCAP, < KEYCAP, > KEYCAP, 7/ KEYCAP, 1	28480 28480 28480 28480 28480	0370-2295 0370-2296 0370-2297 0370-2298 0370-2312
	0370-2313 0370-2314 0370-2315 0370-2316 0370-2317	1 1 1 1	KEYCAP, 2 KEYCAP, 3 KEYCAP, 4 KEYCAP, 5 KEYCAP, 5	28480 28480 28480 28480 28480	0370-2313 0370-2314 0370-2315 0370-2316 0370-2317
	03 70-2318 03 70-2319 03 70-2320 03 70-2322 03 70-2324	1 1 1 1	KEYCAP, 7 KEYCAP, 8 KEYCAP, 9 KEYCAP, • KEYCAP, •	28480 28480 28480 28480 28480	0370-2318 0370-2319 0370-2320 0370-2322 0370-2324
	0.3 70-2325 0.3 70-2635 0.3 70-2636 0.3 70-2637 0.3 70-2638	1 1 1 1	KEYCAP, COLGA KEYCAP, RETURN KEYCAP, SHIFT KEYCAP, CNTL KEYCAP, NEXT PG	28480 28480 28480 28480 28480	0370-2325 0370-2635 0370-2636 0370-2637 0370-2638
	03 70-2639 03 70-2640 03 70-2641 03 70-2642 03 70-2644	1 4 1 1 13	KEYCAP, PREV PG KEYCAP, ARRGU KEYCAP, O KEYCAP, 45 ARRGU KEYCAP, FUNCTION	28480 28480 28480 28480	0370-2640 0370-2641 0370-2642 0370-2644
	0370-2646 0370-2648 0370-2650 0370-2651 0370-2652	1 1 1 1 1 1	KEYCAP, ESC KEYCAP, =- KEYCAP, DEL- KEYCAP, SLASH KEYCAP, BKT LEFT KEYCAP, BKT, RT	28480 28480 28480 28480 28480	0370-2646 0370-2648 0370-2650 0370-2651 0370-2652
	03 70-2653 03 70-2654 03 70-2655 03 70-2656 03 70-2657	1 1 1	KEYCAP, BRIFKI KEYCAP, APPROX KEYCAP, CLR TAB KEYCAP, SET TAB	28480 28480 28480 28480 28480	0370-2654 0370-2655 0370-2655 0370-2656

Reference Designation	HP Part Number	Qty	Description	Mfr Code	Mfr Part Number
	0370-2658 0370-2659 0370-2765 0370-2766 0370-2767	1 1 1 1	2640B KEYBOARD ASSEMBLY, CONT'D. KEYCAP, ROLL UP KEYCAP, ROLL ON KEYCAP, F1 KEYCAP, F2 KEYCAP, F3	28480 28480 28480 28480 28480	0370-2653 0370-2659 0370-2765 0370-2766 0370-2766
	0370-2768 0370-2769 0370-2770 0370-2771 0370-2772	1 1 1 1	KEYCAP, F4 KEYCAP, F5 KEYCAP, F6 KEYCAP, F7 KEYCAP, F8	28480 28480 28480 28480 28480	0370-2768 0370-2769 0370-2770 0370-2771 0370-2772
	0370-2877 0370-2878 0370-2898 0370-2982 04C3-0243	1 1 1 1 2	KEYCAP, BACK SPCE KEYCAP, TAB KEYCAP, FUNC BLK KEYCAP, CLR DISPL BUMPER, FOOT, WHITE KUBBER .38 W	28480 28480 28480 28480 00000	0370-2877 0370-2878 0370-2898 0370-2982 08D
	04(3-0324 0470-0231 0510-0573 0550-1134 14(0-0054	4 5 1 2	BUMPER FOOT, GRAY PLASTIC 0.560* w COMPOUND:NUT LOCKING RETAINER-PUSH ON TRNGL EXT .125-DIA SST TUBING-FLEX .188-ID NPRN-ABR .CG2-WALL CABLE CLAMP-HFCL .078-DIA .375-wD STL	76381 28480 79136 28480 73734	SJ-5025-GRAY 0470-0231 5305-12-H 0890-1134 1549
	1460-0691 1530-1737 1530-1738	1 2 2	SPRING-TRSN .531-IN-W 4-IN-LG MUW PLUNGER FOR MTG SPACE BAR MECH;STL NP HOUSING, SPACE BAR, END HOUSING FOR MTG	28480 04426 04426	1460-0691 80-550767 80-550774
	1950-0486	5	LED-VISIBLE LUM-INT=IMCD IF=20MA-MAX	28480	1990-0486
	2150-0518 2360-0193 2360-0201	8 2 1	WASHER-LK HLCL NO6 .141-IN-IC SCREW-MACH 6-32 .25-IN-LG PAN-HC-POZI SCREW-MACH 6-32 .5-IN-LG PAN-HC-POZI	28480 28480 28480	2190-0918 2360-0193 2360-0201
	23 60-0203 3050-0066 7120-1927 9160-0233 02640-00019	5 1 1	SCREM-MACH 6-32 .625-IN-LG PAN-HD-POZI WASHER-FL MTLC NO6 .147-IN-IC SERIAL TAG LUUSPEAKER KEY CAP, SPAGE	28480 28480 28480 28480 28480	2360-0203 3050-0066 7120-1927 9160-0233 02640-00019
	02640-00059 02640-40007 02640-40008 02640-60018 02640-60041	1 1 1	KEYBOARD GVERLAY BASE, KEYBOARD CUVER, KEYBOARD ASSY, 2640A KEYBCARD ASSY, SPEAKER CABLE	28480 28480 28480 28480 28480	02640-00059 02640-40007 02640-40008 02640-60018 02640-60041
	02€40-60081	1	ASSY, CABLE KEYBOARD	28480	02640-60081

Reference Designation	HP Part Number	Qty	Description	Mfr Code	Mfr Part Number
	02644-60002	1	G.P. KEYBOARC ASSEMBLY REVISION DATE: 09-18-76	28480	02644-60002
	∪370-6620 ∪370-2260 ∪370-2261 ∪370-2262	] ] ]	K <sub>C</sub> YCAP, DBLG K <sub>C</sub> YCAP, 1 K <sub>C</sub> YCAP, 2" K <sub>C</sub> YCAP, 3#	28480 28480 28480 28480	0370-0620 0370-2260 0370-2261 0370-2262
	0370-2263	i i	KEYCAP, 48 KEYCAP, 5%	28480 28480	0370-2263 0370-2264
	0370-2265 0370-2266 0370-2267 0370-2268	] ] ]	KEYCAP, 68 KEYCAP, 7° KEYCAP, 8( KEYCAP, 9)	28480 28480 28480 28480	0370-2265 0370-2266 0370-2267 0370-2268
	0376-2270 0370-2271 0370-2272 0370-2273 0370-2274	1 1 1 1	KEYCAP, A KEYCAP, B KEYCAP, C KEYCAP, D KEYCAP, E	28480 28480 28480 28480 28480	0370-2270 0370-2271 0370-2272 0370-2273 0370-2274
	0370-2275 0370-2276 0370-2277 0370-2278 0370-2279	1 1 1 1	KEYCAP, F KEYCAP, G KEYCAP, H KEYCAP, I KEYCAP, J	28480 28480 28480 28480 28480	0370-2275 0370-2276 0370-2277 0370-2278 0370-2279
	0370-2280 0370-2281 0370-2282 0370-2283 0370-2284	] ] ] ]	KEYCAP, K KCYCAP, L KCYCAP, M KCYCAP, N KEYCAP, C	28480 28480 28480 28480 28480	0370-2280 0370-2281 0370-2282 0370-2283 0370-2284
	0370-2285 0370-2286 0370-2287 0370-2288 0370-2289	] ] ] ]	KEYCAP, P KEYCAP, C KEYCAP, R KCYCAP, S KEYCAP, T	28480 28480 28480 28480 28480	0370-2285 0370-2286 0370-2287 0370-2288 0370-2289
	0370-2290 0370-2291 0370-2292 0370-2293 0370-2294	] ] ]	KŁYCAP, U KŁYCAP, V KŁYCAP, N KŁYCAP, X KŁYCAP, X	28480 28480 28480 28480 28480	0370-2290 0370-2291 0370-2292 0370-2293 0370-2294
	0370-2295 0370-2296 0370-2297 0370-2298 0370-2512	] ] ]	KLYCAP, Z KEYCAP, > KLYCAP, > KLYCAP, 7 KLYCAP, 7/	28480 28480 28480 28480 28480	0370-2295 0370-2296 0370-2297 0370-2298 0370-2312
	0370-2313 0370-2514 0370-2515 0370-2316 0370-2317	] ] ] ]	KEYCAP, 2 KEYCAP, 3 KEYCAP, 4 KLYCAP, 5 KEYCAP, 6	28480 28480 28480 28480 28480	0370-2313 0370-2314 0370-2315 0370-2316 0370-2317
	0370-2318 0370-2319 0370-2320 0370-2322 0370-2324	] ] ] ]	KEYCAP, 7 KEYCAP, 8 KEYCAP, 9 KEYCAP, - KEYCAP, +:	28480 28480 28480 28480 28480	0370-2318 0370-2319 0370-2320 0370-2322 0370-2324
	0370-2525 0370-2635 0370-2636 0370-2637 0370-2638	] ] 2 ]	KEYCAP, COLGN KEYCAP, RETURN KEYCAP, SHIFT KEYCAP, CNTL KEYCAP, NEXT PG	28480 28480 28480 28480 28480	0370-2325 0370-2635 0370-2636 0370-2637 0370-2638
	0370-2639 0370-2640 0370-2641 0370-2642	1 4 1 1	KLYCAP, PREV PG KLYCAP, ARRCW KLYCAP, O KLYCAP, 45 ARRCW	28480 28480 28480 28480	0370-2639 0370-2640 0370-2641 0370-2642
	0370-2644 0370-2640 0370-2647 0370-2648 0370-2649	15 1 1 1	KLYCAP, FUNCTION KEYCAP, ESC KEYCAP, LOCK KEYCAP, =- KLYCAP, =-	28480 28480 28480 28480 28480	0370-2644 0370-2646 0370-2647 0370-2648 0370-2649
	0370-2650 0370-2651 0370-2652 0370-2653 0370-2654	1 1 1 1	KEYCAP, DEL- KEYCAP, SLASH KEYCAP, BKT LEFT KEYCAP, BKT RT KEYCAP, APPRØX	28480 28480 28480 28480 28480	0370-2650 0370-2651 0370-2652 0370-2653 0370-2654
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Reference Designation	HP Part Number	Qty	Description	Mfr Code	Mfr Part Number
	0370-2655 0370-2656 0370-2657 0370-2658 0370-2659	] ] ] ]	G.P. KEYBOARD ASSEMBLY, CONT'D. KEYCAP, AT KEYCAP, CLR TAB KEYCAP, SET TAB KEYCAP, ROLL UP KEYCAP, ROLL UP	28480 28480 28480 28480 28480	0370-2655 0370-2656 0370-2657 0370-2658 0370-2659
	0370-2765 0370-2766 0370-2767 0370-2768 0370-2769	]	KEYCAP, F1 KEYCAP, F2 KEYCAP, F3 KEYCAP, F4 KEYCAP, F5	28480 28480 28480 28480 28480	0370-2765 0370-2766 0370-2767 0370-2768 0370-2769
	0370-2770 0370-2771 0370-2772 0370-2877 0370-2878	1 1 1 1	KEYCAP, F6 KEYCAP, F7 KEYCAP, F8 KEYCAP, BACK SPCE KEYCAP, TAB	28480 28480 28480 28480 28480	0370-2770 0370-2771 0370-2772 0370-2877 0370-2878
	0370-2894 0370-2895 0370-2898 0370-2982 0403-0243 0403-0324 0403-0324 0510-0573	1 1 1 4 4 5	KEYCAP, -FUNC GRN KEYCAP, -FUNC GLD KEYCAP, -FUNC BLK KEYCAP, CLR DISPL BUMPER, FCGT, WHITE RUBBER .38" W BUMPER FOOT, GRAY PLASTIC 0.560" W COMPOUND:NUT LOCKING RETAINER-PUSH ON TRNGL EXT .125-DIA SST TUBING-FLEX .188-IO NPRN-RBK .062-WALL	28480 28480 28480 28480 00000 76381 28480 79136 28480	0370-2894 0370-2895 0370-2898 0370-2982 0BD SJ-5025-GRAY 0470-0231 5305-12-H 0890-1134
	14C0-0054 1460-0691 1550-1737 1550-1738 1950-0485 1950-0486 2190-0918 2360-0193 2360-0201 2360-0201 2360-0203	2 1 2 2 1 1 5 8 2 1 5 5	CABLE CLAMP-HFCL .078-DIA .375-mD STL SPRING-TRSN .531-IN-W 4-IN-LG MUM PLUNGER FOR NTG SPACE BAR MECH;STL NP HOUSING, SPACE BAR, END HOUSING FOR MTG LED-VISIBLE LUM-INT-800UCD IF=30MA-MAX LED-VISIBLE LUM-INT-IMCD IF=20MA-MAX DIODE-LIGHT ENIT WASHER-LK HLCL NO6 .141-IN-IC SCREW-MACH 6-32 .25-IN-LG PAN-HD-PCZI SCREW-MACH 6-32 .5-IN-LG PAN-HD-PCZI SCREW-MACH 6-32 .625-IN-LG PAN-HD-POZI MASHER-FL MTLC NC6 .147-IN-IC	73734 28480 04426 04426 28480 28480 28480 28480 28480 28480 28480 28480	1549 1460-0691 80-550767 80-550774 1990-0485 1990-0486 2190-0918 2360-0193 2360-0201 2360-0203 3050-0066
	7120-1927 7120-4403 9160-0233 02640-00019 02640-40007	1 1 1 1	BLANK LABEL "625-IN-ND 1.5-IN-LG AL Label, INFO Loudspeaker Key Cap-Space Base, Keyboard	28480 28480 28480 28480 28480	7120-1927 7120-4403 9160-0233 02640-00019 02640-40007
	02640-40008 02640-60018 02640-60041 02640-60081 02644-00002	] ] ] ]	CJVER, KEYBOARD ASSY, 2640A KEYBOARD ASSY, SPEAKER CABLE ASSY, CABLE KEYBOARD OVERLAY KEYBGARD	28480 28480 28480 28480 28480	02640-40008 02640-60018 02640-60041 02640-60081 02644-00002

Reference Designation	HP Part Number	Qty	<b>Description</b>	Mfr Code	Mfr Part Number
	02445-60001	ı	KEYBOARD ASSEMBLY	28480	02645-60001
	-		REVISION DATE: 09-02-76		
	0370-0620	1	KEYCAP. DBLO	28480	0370-0620
	0370-2260 0370-2261	1	KEYCAP, 1 KEYCAP, 2"	28480 28480	0370-2260 0370-2261
	0370-2262 0370-2263	1	KEYCAP, 3# KEYCAP, 4\$	28480 28480	0370-2262 0370-2263
	0370-2264	1	KEYCAP. 5%	28480	0370-2264
	0370-2265 0370-2266	1 1	KEYCAP. 68 Keycap. 7"	28480 28480	0370-2265 0370-2266
	0370-2267	1	KEYCAP, 8(	28480	0370-2267
	0370-2268	1	KEYCAP, 9)	28480	0370-2268
	0370-2270 0370-2271	1	KEYCAP, A Keycap, B	28480 28480	0370-2270 0370-2271
	0370-2272	1	KEYCAP, C	28480	0370-2272
	0370-2∠73 0370-2274	1	KEYCAP, D KEYCAP, E	28480 28480	0370-2273 0370-2274
	0370-2275		KEYCAP, F	28480	0370-2275
	0370+2∠76 0370+2∠77	1	KĒYCAP, G Kēycap, H	28480 28480	0370-2276 0370-2277
	0370-2278	1	KEYCAP, I	28480	0370-2278
	J370-2279	1	KEYCAP, J	28480	0370-2279
	0370-2260 0370-2281	1 1	KĊYCAP, K Kċycap, L	28480 28480	0370-2280 0370-2281
	0370-2282 0370-2283	1	KEYCAP, M Keycap, N	28480 28480	0370-22 82 0370-22 83
	0310-2284	î	KEYCAP, C	28480	0370-2284
	0310-2265	1	KCYCAP, P	28480	0370-2285
	0370-2∠36 0370-2∠37	1	KEYGAP, C Keycap, R	28480 28480	0370-2286 0370-2287
	0370-2∠88 0370-2289	1	KEYCAP, S KEYCAP, T	28480 28480	0370-2288 0370-2289
	U370-2290	1	KEYCAP, U	28480	0370-2290
	0370-2291 0370-2292	1 1	KEYCAP, V Keycap, W	28480 28480	0370-2291 0370-2292
	0370-2293 0370-2294	1 1	KEYCAP, X KEYCAP, Y	28480 28480	0370-2293 0370-2294
	0370-2295	1 1	KEYCAP, Z	28480	0370-2295
	ە229−10 د <b>ن</b>	1	KEYCAP, <	28480	0 <b>370-229</b> 6
	0370-2297 0370-2298	1	KEYCAP, > KEYCAP, ?/	28480 28480	0370-2297 0370-2298
	0370-2312	1	KEYCAP, 1	28480	0370-2312
	0370-2313 0370-2314	1 1	KEYCAP, 2 Keycap, 3	28480 28480	0370-2313 0370-2314
	0370-2315 0370-2316	1	KÄYCAP, 4 Keycap, 5	28480 28480	0370-2315
	0370-2317	1	KEYCAP, 6	28480	0370-2316 0370-2317
	0370-2518	1 1	KEYCAP, 7 KEYCAP, 8	28480 28480	0370-2318
	0370-2319 0370-2320	1	KEYCAP. 9	28480	0370-2319 0370-2320
	u370-2522 u370-2524	1 1	KEYCAP, . Keycap, +;	28480 28480	0370-2322 0370-2324
	0370-2525	1	KEYCAP, COLON	28480	0370-2325
	03 10-2635 03 10-2636	1 1	KEYCAP, RETURN KEYCAP, SHIFT	28480 28480	0370-2635 0370-2636
	0370-2637 0376-2638	1	KEYCAP, CNTL KEYCAP, NEXT PG	28480 28480	0370-2637 0370-2638
	U 3 70-2:39	1	KEYCAP, PREV PG	28480	0370-2639
	0370-2540 0370-2541	4	KEYCAP, ARRCH KEYCAP, O	28480 28480	0370-2640 0370-2641
	0310-2042	1	KEYCAP, 45 ABROW	28480	0370-2642
	0370-2644	15	KEYCAD ESC	28480	0370-2644
	0370-2646 0370-2648	1	KEYCAP, ESC KEYCAP, =-	28480 28480	0370-2646 0370-2648
	0370-2650 0370-2051	1	KEYCAP, DEL— Keycap, Slash	28480 28480	0370-2650 0370-2651
	0370-2052	ī	KEYCAP, BKT, LEFT	28480	0370-2652
	0370-2653 0370-2654	1 1	KEYCAP, BKT, RT KEYCAP, APPREX	28480 28480	0370-2653 0370-2654
	0370-2655	1	KEYCAP, AT	28480	0 <b>370</b> -2655
	0370-2556 0370-2557	1	KEYCAP, CLR TAB KEYCAP, SET TAB	28480 28480	0370-2656 0370-2657
		1 1		1 1	

Reference	HP Part	Qty	Description	Mfr	Mfr Part Number
Designation	Number			Code	Will Fall Number
	03 70-2658 03 70-2659 03 70-2765 03 70-2766 03 70-2767	1 1 1 1	KEYBOARD ASSEMBLY, CONT'D. KEYCAP, ROLL UP KEYCAP, ROLL DN KEYCAP, F1 KEYCAP, F2 KEYCAP, F3	28480 28480 28480 28480 28480	0370-2658 0370-2659 0370-2765 0370-2766 0370-2766
	0370-2768 0370-2769 0370-2770 0370-2771 0370-2772	1 1 1 1	KEYCAP, F4 KEYCAP, F5 KLYCAP, F6 KEYCAP, F7 KEYCAP, F8	28480 28480 28480 28480 28480	0370-2768 0370-2769 0370-2770 0370-2771 0370-2772
	03 70-267 7 03 70-287 8 03 70-2894 03 70-2895 03 70-2898	i 1 1 1	KEYCAP, BACK SPCE KEYCAP, TAB KEYCAP,-FUNC GRN KEYCAP,-FUNC GLD KEYCAP,-FUNC BLK	28480 28480 28480 28480 28480	0370-2877 0370-2878 0370-2894 0370-2895 0370-2895
	0370-2982 04C3-0243 04C3-0324 0470-0231 0510-0573	1 2 4 5	KEYCAP, CLR DISPL BUMPER, FOOT, MHITE RUBBER .38" M BUMPER FOOT, GRAY PLASTIC 0.560" W COMPOUND:NUT LOCKING RETAINER-PUSH GN TRNGL EXT .125-DIA SST	28480 00000 76381 28480 79136	0370—2982 08D SJ—5025—GRAY 0470—0231 5305—12—H
	0850-1134 1400-0440 1460-0691 1550-1737 1530-1738	1 1 1 2 2	TUBING-FLEX .188-ID NPRN-RBR .Co2-WALL CABLE TIE .062-1.75-DIA .184-WC NYL SPRING-TRSN .531-IN-W 4-IN-LG MUM PLUNGER FOR MTG SPACE BAR MECH;STL NP HOUSING, SPACE BAR, END HOUSING FOR MTG	28480 59730 28480 04426 04426	0890-1134 TY 35M 1460-0691 80-550767 80-550774
	1950-0485 1950-0486 1950-0487 2150-0918 2360-0193	1 5 1 8 2	LED-VISIBLE LUM-INT=800UCD IF=30MA-MAX LED-VISIBLE LUM-INT=1MCD IF=20MA-MAX LED-VISIBLE LUM-INT=1MCD IF=20MA-MAX WASHEK-LK HLCL NO6 -141-IN-IC SCREW-MACH 6-32 -25-IN-LG PAN-FD-PCZI	28480 28480 28480 28480 28480	1990-0485 1990-0486 1990-0487 2190-0918 2360-0193
	2360-0201 2360-0203 3050-0006 7120-1927 9160-0233	1 5 5 1 1	SCREW-MACH 6-32 .5-IN-LG PAN-HC-POZI SCREW-MACH 6-32 .625-IN-LG PAN-HD-POZI WASHER-FL MTLC NO6 .147-IN-ID SERIAL TAG LOUDSPEAKER	28480 28480 28480 28480 28480	2360-0201 2360-0203 3050-0066 7120-1927 9160-0233
	02 640-00019 02 640-40007 02 640-40008 02 640-60018 02 640-60041	1 1 1 1	KEY CAP, SPACE BASE, KEYBOARD CUVER, KEYBOARD ASSY, 2640A KEYBOARD ASSY, SPEAKEF CABLE	28480 28480 28480 28480 28480	02640-00019 02640-40007 02640-40008 02640-60018 02640-60041
	02440-60081	1	ASSY. CABLE KEYBOARD	28480	02640-60081
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